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INTERNATIONAL INSTITUTE OF AGRICULTURE

INTERNATIONAL REVIEW OF AGRICULTURE

PART II

MONTHLY BULLETIN

OF

AGRICULTURAL ECONOMICS AND SOCIOLOGY

TABLE OF CONTENTS



ROME

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1930

CLASSIFICATION OF THE SUBJECTS

I. -- *Co-operation.*

- I..... CO-OPERATION IN GENERAL OR OF VARIOUS KINDS.
- II..... LEGISLATION AND JURISPRUDENCE.
- III..... INTERVENTION OF THE STATE AND OF PUBLIC AUTHORITIES.
- IV..... STATISTICS.
- V..... CENTRAL OR REGIONAL INSTITUTIONS OR FEDERATIONS HAVING VARIOUS OBJECTS.
- VI..... INSTITUTIONS SUPPLYING CREDIT TO CO-OPERATIVE SOCIETIES.
- VII..... CO-OPERATIVE SOCIETIES ENGAGED IN THE PURCHASE OR SUPPLY OF AGRICULTURAL REQUISITES.
 - (1) Societies confining themselves to the purchase of agricultural requisites.
 - (2) Societies engaged in the purchase of agricultural requisites and in working up the requisites purchased.
- VIII..... CO-OPERATIVE CREDIT SOCIETIES.
- IX..... CO-OPERATIVE SOCIETIES FOR FACILITATING THE PRODUCTION CARRIED ON BY THE MEMBERS.
- X..... CO-OPERATIVE SOCIETIES ENGAGED IN THE SALE, OR IN OPERATIONS PRELIMINARY TO THE SALE, OF AGRICULTURAL PRODUCE.
 - (1) Societies confining themselves to the sale of agricultural produce.
 - (2) Societies engaged in production or in working up produce with view to sale.
- XI..... CO-OPERATIVE SOCIETIES FOR THE ACQUISITION AND CULTIVATION OF LAND OR FOR THE EXECUTION OF AGRICULTURAL WORKS.
- XII..... CO-OPERATIVE EDUCATION.
- XIII..... MISCELLANEOUS INFORMATION CONCERNING AGRICULTURAL CO-OPERATION.
- XIV..... CO-OPERATIVE CONGRESSES.

II. -- *Association.*

- I..... ASSOCIATION IN GENERAL.
- II..... LEGISLATION AND JURISPRUDENCE.

88496

- III..... INTERVENTION OF THE STATE AND OF PUBLIC AUTHORITIES.
- IV..... STATISTICS.
- V..... SEMI-OFFICIAL AGRICULTURAL ORGANISATIONS AND THE OFFICIAL REPRESENTATION OF THE AGRICULTURAL CLASSES.
- VI..... ASSOCIATIONS FOR THE PROTECTION OF THE GENERAL INTERESTS OF AGRICULTURISTS.
- VII..... ASSOCIATIONS FOR FURTHERING THE TECHNICAL PROGRESS OF AGRICULTURE.
- VIII..... AGRICULTURAL WORKERS' UNIONS AND EMPLOYERS' UNIONS.
- IX..... OTHER AGRICULTURAL ASSOCIATIONS OR ORGANISATIONS.
- X..... AGRICULTURAL CONGRESSES, AGRICULTURAL SHOWS, etc.

III. — *Insurance and Thrift.*

- I..... INSURANCE IN GENERAL, OR OF VARIOUS KINDS.
- II..... LEGISLATION AND JURISPRUDENCE.
- III..... INTERVENTION OF THE STATE AND OF PUBLIC AUTHORITIES.
- IV..... STATISTICS.
- V..... INSURANCE OF PERSONS :
 - (1) Insurance against illness.
 - (2) Insurance against accidents.
 - (3) Insurance against unemployment and insurance of employers against strikes.
 - (4) Insurance against invalidity and old age.
- VI..... INSURANCE OF THINGS :
 - (1) Insurance against fire.
 - (2) Insurance against mortality of live stock.
 - (3) Insurance against hail, floods and drought.
- VII..... MISCELLANEOUS INFORMATION CONCERNING INSURANCE.

IV. — *Credit.*

- I..... NON CO-OPERATIVE CREDIT AND MORTGAGE INDEBTEDNESS.
- II..... LEGISLATION AND JURISPRUDENCE.
- III..... INTERVENTION OF THE STATE AND OF PUBLIC AUTHORITIES.
- IV..... STATISTICS.
- V..... BANKS AND SAVINGS BANKS AS SOURCES OF CREDIT.
- VI..... MORTGAGE CREDIT.
- VII..... AGRICULTURAL CREDIT.
- VIII..... MISCELLANEOUS INFORMATION CONCERNING NON CO-OPERATIVE CREDIT.

V. — *Agricultural economy in general.*

- I..... LAND PROPERTY AND AGRICULTURAL ECONOMY IN GENERAL.
- II..... LEGISLATION AND JURISPRUDENCE.
- III..... PUBLIC ADMINISTRATIVE BODIES IN CONNECTION WITH AGRICULTURE.

IV..... LAND SYSTEMS :

- (1) The public lands.
- (2) The ownership, inheritance and division of land.
- (3) Land registers and the transfer of ownership.
- (4) The distribution of large, medium and small holdings.
- (5) Different forms of land tenure.
- (6) Agricultural colonization.
- (7) The creation of small holdings.
- (8) Reclamation of land and settlement of reclaimed land.
- (9) Conservation of small holdings : inalienable family properties.
- (10) Excessive subdivision and consolidation of holdings.
- (11) Agrarian reform in general.
- (12) Allotments.

V..... AGRICULTURAL POLICY :

- (1) Agriculture and taxation.
- (2) Measures to increase production.
- (3) Agricultural reconstruction.

VI..... FARM ACCOUNTANCY, FARM ECONOMICS AND GENERAL CONDITION OF AGRICULTURE.

VII..... SCIENTIFIC MANAGEMENT IN AGRICULTURE.

VIII..... AGRICULTURAL INDUSTRIES AND TRADES.

IX..... THE DISTRIBUTION OF FOODSTUFFS AND THE MEASURES TO COMBAT EXCESSIVE PRICES AND FRAUD.

X..... ECONOMIC FLUCTUATIONS IN AGRICULTURE.

XI..... ECONOMIC AND SOCIAL CONDITIONS OF THE AGRICULTURAL CLASSES :

- (1) Agricultural labour.
- (2) The conditions of rural life and measures for improving them and combatting rural depopulation.
- (3) Farm household management.

XII..... ECONOMIC AND SOCIAL CONGRESSES, EXHIBITIONS, ETC.

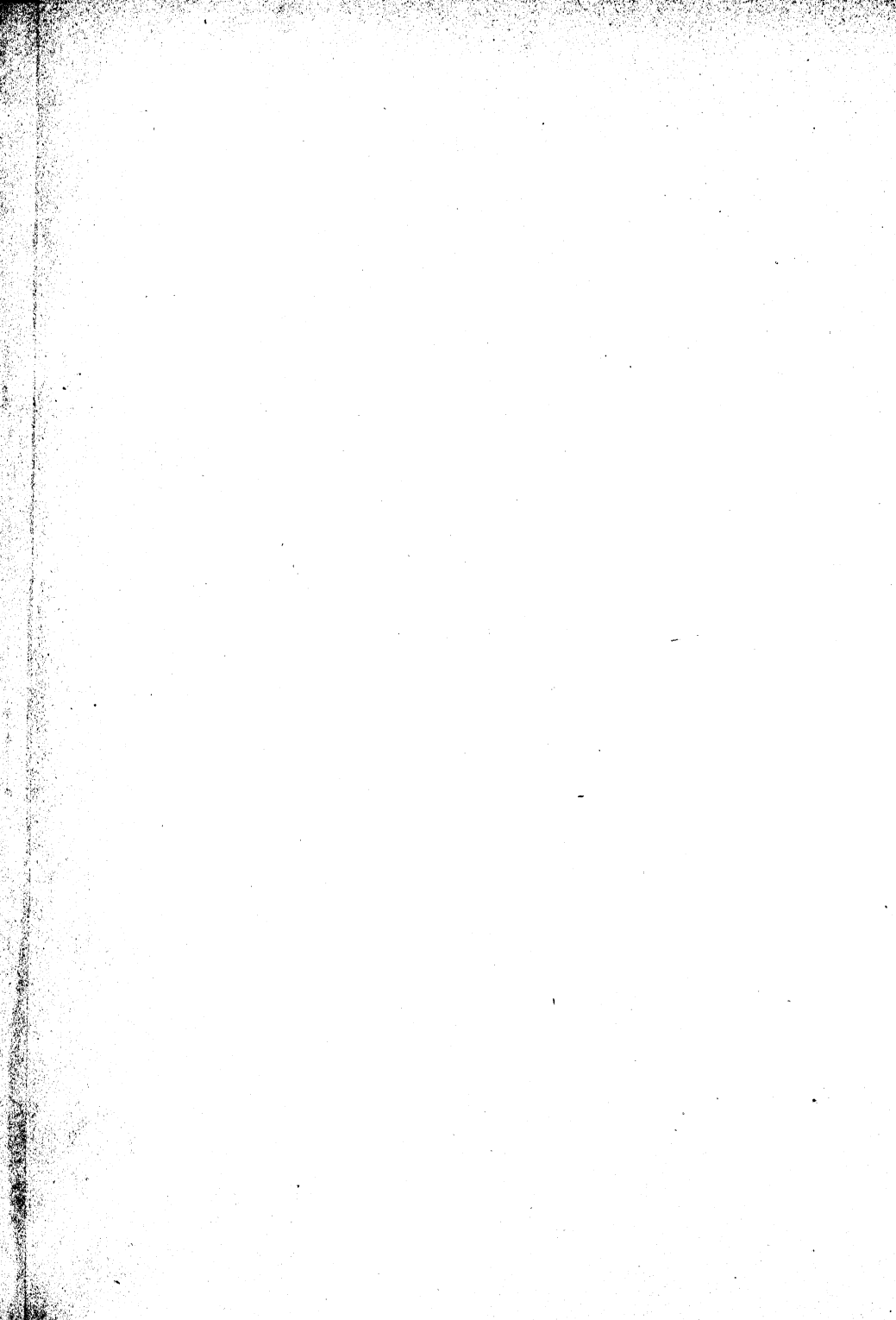


TABLE OF CONTENTS

A. — BY SUBJECTS

I.

CO-OPERATION

I. — CO-OPERATION IN GENERAL OR OF VARIOUS KINDS.

Czechoslovakia: Agricultural Co-operation in Czechoslovakia, by Prof. S. Borodaewsky, 2, 73-77. — *France*: Agricultural Credit and Co-operation in France, by Louis Tardy, 8, 311-319.

II. — CO-OPERATIVE SOCIETIES ENGAGED IN THE SALE OF AGRICULTURAL PRODUCE.

Germany: Organisation of a Uniform Egg Marketing System in Germany, 10, 404-406. — *Spain*: The New Organisation for the Co-operative Sale of Olive Oil in Spain, 12, 491-496.

II.

ASSOCIATION

I. — SEMI-OFFICIAL AGRICULTURAL CORPORATIONS.

Austria: The Chambers of Agriculture in the Economic Life of Austria, 9, 359-361.

II. — ASSOCIATIONS FOR THE PROTECTION OF THE GENERAL INTERESTS OF AGRICULTURIST.

Latvia: The Central Society of Agriculture in Latvia, 12, 496-497. — *Switzerland*: Organisation and activity of the Swiss Peasant's Union, 3, 108-112.

III. — ASSOCIATIONS FOR FURTHERING THE TECHNICAL PROGRESS OF AGRICULTURISTS.

Germany: Establishment and Work of the Farm Experiment Circles in Germany, 9, 357-359.

IV. — AGRICULTURAL CONGRESSES.

International Congress of Agriculture, XIVth (Bucarest, 1929), 9, 356, 361-362, 381-382.

III.

INSURANCE AND THRIFT

I. — INSURANCE OF THINGS.

Various Countries : Agricultural Insurance in Certain Countries, 9, 378-381.

IV.

CREDIT

I. — MORTGAGE CREDIT.

International : Mortgage Indebtedness of Farmers, 2, 81-87. — *Bulgaria* : Rural Mortgage Credit and Agricultural Credit in Bulgaria, 2, 87-90. — *Chile* : Mortgage and Agricultural Credit in Chile, 11, 451-453. — *Mexico* : Mortgage Notes issued by the Landowner under Mexican Agricultural Legislation, 7, 278-280. — *Peru* : Agricultural Mortgage Credit in Peru, 9, 382-384.

II. — AGRICULTURAL CREDIT.

Yugoslavia : The New Agricultural Bank in Yugoslavia, 7, 276-278.

V.

AGRICULTURAL ECONOMY IN GENERAL

I. — LAND SYSTEMS.

(1) AGRICULTURAL COLONIZATION.

Morocco (Spanish Protectorate) : Land Settlement in the Spanish Zone of Morocco, 8, 331-333.

(2) RECLAMATION OF LAND AND SETTLEMENT OF RECLAIMED LAND.

Italy : (1) The "Opera Nazionale per i Combattenti" in Italy, 3, 120-123; (2) Development of Land Improvement and Settlement in the Roman Campagna, 3, 123-125; (3) The General Scheme of Land Improvement in Italy, 4, 167-173.

(3) AGRARIAN REFORM IN GENERAL.

Austria : Agrarian Reform in Austria (*), 12, 477-481. — *Finland* : Agrarian Reform in Finland (*), 8, 319-331 and 9, 362-377. — *Latvia* : The Agrarian Reform in Latvia (*), 10, 406-413 and 11, 443-451. — *Lithuania* : Agrarian Reform in Lithuania (*), 7, 280-294.

(*) Reports sent by the Governments in reply to an Enquiry on Agrarian Reform made by the International Institute of Agriculture.

II. — FARM ACCOUNTANCY, FARM ECONOMICS AND GENERAL CONDITIONS OF AGRICULTURE.

International: (1) The Use of Machines as a Condition for the Increase of Agricultural Production, 4, 150-155; (2) Farm Accountancy Results in Various Countries, 7, 265-275; (3) Decline in Purchasing Power for External Commodities in Agriculture in relation to Income, 8, 305-311; (4) Definitions and Terminology for Use in International Statistical Researches based on Farm Accountancy, 9, 349-356. (*Extract from a Report submitted by Prof. E. Laur to the 14th International Agricultural Congress, held at Bucarest in 1929*); (5) Agricultural Index Numbers and Farm Accountancy, 12, 481-485. — *British Dependencies in Eastern and Central Africa*: Development of the Agricultural Resources of the British Dependencies in Eastern and Central Africa, 10, 413-420. — *Denmark*: Results of Danish Farm Accounts in the Accounting year 1927-28. Provisional Survey, 3, 101-104. — *Germany*: Accountancy Results in German Agriculture during the Financial Years from 1924-25 to 1927-28 as forming a basis for Farming Statistics, 11, 453-457. — *Poland*: Enquiry into the Economic Conditions and the Profit Capacity of the Peasant Farms in Poland, 5, 199-212. — *Switzerland*: Profit Earning Capacity of Swiss Agriculture, 3, 104-108.

III. — THE MARKETING OF AGRICULTURAL PRODUCE.

International: (1) The World Market in Tobacco (*concluded*). III. National Types of Tobacco. : Trading, 1, 28-36; (2) World Production and Trade in Rice, 2, 53-64; (3) The Rice Problem in the Pacific Countries, 2, 64-72; (4) The World Trade in Eggs, 4, 141, 150; (5) The Sugar Question in the Pacific Countries, 5, 197-199; (6) The World's Wool Markets, by A. Frobitsher, B. Sc., F. S. S., 10, 393-404 and 11, 433-443; (7) The Meat Industry on the South-American Continent, 12, 498-503. — *Argentine*: Basis for the Installation of a General System of Elevators in the Argentine Republic, 1, 35-40. — *Brazil*: The Protection of Coffee as explained in the Message of the President of Brazil, 6, 243-246. — *France*: Rationalisation Experiments on the Wheat Market in France, 7, 294-297. — *Greece*: Currant Trade in Greece, 2, 77-81.

IV. — THE DISTRIBUTION OF FOODSTUFFS.

International: (1) Development of the Demand for Agricultural Products, 1, 12-28; (2) Changes in Bread Consumption. Causes and Consequences, 10, 420-429 and 11, 457-465.

V. — ECONOMIC FLUCTUATIONS IN AGRICULTURE.

International: World Agriculture and International Price Stabilisation, by D. Ferguson and J. K. Montgomery, 1, 1-12. — *Czechoslovakia*: Price Reports at the Institute of Rural Accountancy and Economy at Prague. (*Note sent by Prof. Dr. H. Brdlik*), 6, 237-242. — *U. R. S. S.*: The index-numbers method and the study of economic fluctuations in Soviet Russia, 5, 185-197 and 6, 225-237.

VI. — ECONOMIC AND SOCIAL CONDITIONS OF THE AGRICULTURAL CLASSES.

(1) AGRICULTURAL LABOUR.

Brazil: Official Enquiry on Agricultural Wages in Brazil, 12, 486-491.

(2) THE CONDITIONS OF RURAL LIFE AND MEASURES FOR IMPROVING THEM AND FOR COMBATING RURAL DEPOPULATION.

International: Some Aspects of the Problem of the Rural Exodus, 3, 112-120. —
New Zealand: Some Aspects of the Country Life Problem in New Zealand, by
Prof. H. Belshaw, 4, 155-167.

(3) FARM HOUSEHOLD MANAGEMENT.

International: Recent Views on the Problem of Farm Household Management
Instruction, 6, 246-248.

VII. — ADVISORY COMMITTEES OF THE INTERNATIONAL INSTITUTE OF AGRICULTURE.

The Fourth Session of the Mixed Advisory Agricultural Committee, 11, 465-469.

BIBLIOGRAPHY ON ECONOMIC AND SOCIAL QUESTIONS.

Bibliography on Economic and Social Questions, 1, 46-47; 4, 173-174; 5, 213; 6,
248-249; 9, 384-385; 11, 470.

AGRICULTURAL LEGISLATION

Principles common to Recent Enactments on Agricultural Credit, 1, 41-43. —
Recent Legislation on the Grading of Agricultural Products, 2, 90-94. — For-
estry Legislation in the Scandinavian Countries, 3, 125-130. — Recent Develop-
ments in Legislation on the Subject of the Small Family Property, 4, 174-179.
— New Tendencies in the Law on Compensation awarded to Tenants in respect
of improvements, 5, 213-219. — Proposed Farm Relief Legislation in the
United States, 6, 249-256. — A Glance at the Recent Legislative Measures relat-
ing to the raising of Wheat customs tariffs, the fixing of wheat prices, the
maintenance of a proper wheat supply, the wheat market and the promotion
of wheat cultivation in France, Germany, Italy, Portugal, Rumania, Spain,
Switzerland and Uruguay, 8, 333-344. — The Principles of "State Ownership"
and "Uses based on Personal Labour" in Russian Agrarian Law, 9, 385-389. —
Recent Marketing Legislation in the Australian Commonwealth, 11, 470-474.
Summary of the New Laws and Regulations, 1, 44-45; 2, 94-95; 3, 130-131;
4, 179; 5, 219-220; 6, 256-258; 7, 297-300; 8, 333-344; 9, 390; 12, 503-505.
Bills, 1, 45-46; 3, 131; 4, 180; 6, 258; 8, 344-345; 10, 429-430.
Bibliography on Legislative Questions, 4, 180-181; 6, 258-260.

LIST OF BOOKS RECEIVED BY THE LIBRARY

List of Books Received by the Library: 1, 47-52; 2, 95-100; 3, 132-139; 4, 181-184;
5, 220-224; 6, 260-264; 7, 300-304; 8, 345-348; 9, 390-392; 10, 430-432;
11, 474-476; 12, 505-508.

B. — BY COUNTRIES

ADVISORY COMMITTEES OF THE INTERNATIONAL INSTITUTE OF AGRICULTURE.

The Fourth Session of the Mixed Advisory Agricultural Committee, 11, 465-469.

INTERNATIONAL INSTITUTIONS AND QUESTIONS.

Association : International Congress of Agriculture, XIVth (Bucarest, 1929), 9, 356, 361-362, 381-382. — *Insurance and Thrift* : Agricultural Insurance in Certain Countries, 9, 378-381. — *Credit* : Mortgage Indebtedness of Farmers, 2, 81-87. — *Agricultural Economy in General* : (1) World Agriculture and International Price Stabilisation, by D. Ferguson and J. K. Montgomery, 1, 1-12 ; (2) Development of the Demand for Agricultural Products, 1, 12-28 ; (3) The World Market in Tobacco (*concluded*) III. National Types of Tobacco Trading, 1, 28-36 ; (4) World Production and Trade in Rice, 2, 53-64 ; (5) The Rice Problem in the Pacific Countries, 2, 64-72 ; (6) Some Aspects of the Problem of the Rural Exodus, 3, 112-120 ; (7) The World Trade in Eggs, 4, 141-150 ; (8) The Use of Machines as a Condition for the Increase of Agricultural Production, 4, 150-155 ; (9) The Sugar Question in the Pacific Countries, 5, 197-199 ; (10) Recent Views on the Problem of Farm Household Management Instruction, 6, 246-248 ; (11) Farm Accountancy Results in Various Countries, 7, 265-275 ; (12) Decline in Purchasing Power for External Commodities in Agriculture in relation to Income, 8, 305-311 ; (13) Definitions and Terminology for Use in International Statistical Researches based on Farm Accountancy, 9, 349-356 (*Extract from a Report submitted by Prof. E. Laur to the 14th International Agricultural Congress held at Bucarest in 1929*) ; (14) The World's Wool Markets, by A. Frobisher, B. Sc., F. S. S., 10, 393-404 and 11, 433-443 ; (15) Development of the Agricultural Resources of the British Dependencies in Eastern and Central Africa, 10, 413-420 ; (16) Changes in Bread Consumption : Causes and Consequences, 10, 420-429 and 11, 457-465 ; (17) Agricultural Index-Numbers and Farm Accountancy, 12, 485-489 ; (18) The Meat Industry on the South American Continent, 12, 498-503. — *Bibliography on Economic and Social Questions* : 1, 46-47 ; 4, 178 ; 9, 384.

ARGENTINE :

Agricultural Economy in General : Basis for the Installation of a General System of Elevators in the Argentine Republic, 1, 36-40. — *Bibliography on Economic and Social Questions* : 4, 173.

AUSTRIA :

Association : The Chambers of Agriculture in the Economic Life of Austria, 9, 359-361. — *Agricultural Economy in General* : Agrarian Reform in Austria (*), 12, 477-481. — *Bibliography on Economic and Social Questions* : 9, 385.

BRAZIL :

Agricultural Economy in General : (1) The Protection of Coffee as explained in the Message of the President of Brazil, 6, 243-246 ; (2) Official Inquiry on Agricultural Wages in Brazil, 12, 486-491.

BULGARIA :

Credit : Rural Mortgage Credit and Agricultural Credit in Bulgaria, 2, 87-90.

(*) Reports sent by the Governments in reply to an Enquiry on Agrarian Reform made by the International Institute of Agriculture.

CHILI :

Credit : Mortgage and Agricultural Credit in Chile, 11, 451-453.

CZECHOSLOVAKIA :

Co-operation : Agricultural Co-operation in Czechoslovakia, by Prof. S. Borodaewsky, 2, 73-77. — *Agricultural Economy in General*: Price Reports of the Institute of Rural Accountancy and Economy at Prague, 6, 237-242. — *Bibliography on Economic and Social Questions* 4, 174; 5, 213; 6, 249.

DENMARK :

Agricultural Economy in General: Results of Danish Farm Accounts in the Accounting year 1927-28. Provisional Survey 3, 101-104.

FINLAND :

Agricultural Economy in General : Agrarian Reform in Finland (*), 8, 319-331 and 9, 362-377.

FRANCE :

Co-operation : Agricultural Credit and Co-operation in France by Louis Tardy, 8, 311-319. — *Agricultural Economy in General*: Rationalisation Experiments on the Wheat Market in France, 7, 294-297. — *Bibliography on Economic and Social Questions*: 6, 249.

GERMANY :

Co-operation : Organisation of a Uniform Egg Marketing System in Germany, 10, 404-406. — *Association* : Establishment and Work the Farm Experiment Circles in Germany, 9, 357-359. — *Agricultural Economy in General*: Accountancy Results in German Agriculture during the Financial Years from 1924-25 to 1927-28 as forming a basis for Farming Statistics, 11, 453-457. — *Bibliography on Economic and Social Questions* : 6, 248; 11, 470.

GREECE :

Agricultural Economy in General : Currant Trade in Greece, 2, 77-81.

HUNGARY :

Bibliography on Economic and Social Questions : 9, 384.

ITALY :

Agricultural Economy in General : (1) The "Opera Nazionale per i Combattenti" in Italy, 3, 120-123; (2) Development of Land Improvement and Settlement in the Roman Campagna, 3, 123-125; (3) The General Scheme of Land Improvement in Italy, 4, 167-173. — *Bibliography on Economic and Social Questions* : 5, 213; 6, 249; 11, 470.

JAMAICA :

Bibliography on Economic and Social Questions : 11, 470.

LATVIA :

Association : The Central Society of Agriculture in Latvia, 12, 496-497. — *Agricultural Economy in General* : The Agrarian Reform in Latvia (*), 10, 406-413 and 11-443-451.

(*) Reports sent by the Governments in reply to an Enquiry on Agrarian Reform made by the International Institute of Agriculture.

LITHUANIA :

Agricultural Economy in General : Agrarian Reform in Lithuania (*), 7, 280-294.

MEXICO :

Agricultural Economy in General : Mortgage Notes issued by the Landowner under Mexican Agricultural Legislation, 7, 278-280. — *Bibliography on Economic and Social Questions* : 4, 173.

MOROCCO (SPANISH PROTECTORATE) :

Agricultural Economy in General : Land Settlement in the Spanish Zone of Morocco, 8, 331-333.

NEW ZEALAND :

Agricultural Economy in General : Some Aspects of the Country Life Problem in New Zealand, by Prof. H. Belshaw, 4, 155-167.

PERU :

Credit : Agricultural Mortgage Credit in Peru, 9, 382-384. — *Bibliography on Economic and Social Questions* : 4, 173.

POLAND :

Agricultural Economy in General : Enquiry into the Economic Conditions and the Profit Capacity of the Peasant Farms in Poland, 5, 199-212. — *Bibliography in Economic and Social Questions* : 5, 213.

SPAIN :

Co-operation : The New Organization for the Co-operative Sale of Olive Oil in Spain, 12, 491-496. — *Bibliography on Economic and Social Questions* : 4, 174.

SWITZERLAND :

Association : Organisation and Activity of the Swiss Peasants' Union, 3, 108-112. — *Agricultural Economy in General* : Profit Earning Capacity of Swiss Agriculture, 3, 104-108. — *Bibliography on Economic and Social Questions*. 11, 470.

U. R. S. S. :

Agricultural Economy in General : The Index-number Method and the Study of Economic Fluctuations in Soviet Russia, 5, 185-197 and 6, 225-237.

URUGUAY :

Bibliography on Economic and Social questions : 4, 174.

YUGOSLAVIA :

Credit : The New Agricultural Bank in Yugoslavia, 7, 276-278.

(*) Reports sent by the Governments in reply to an Enquiry on Agrarian Reform made by the International Institute of Agriculture.

AGRICULTURAL LEGISLATION

Notes concerning the Legislation of Various Countries : Principles Common to Recent Enactments on Agricultural Credit, 1, 41-43. — Recent Legislation on the Grading of Agricultural Products, 2, 90-94. — Forestry Legislation in the Scandinavian Countries, 3, 125-130. — Recent Development in Legislation on the Subject of the Small Family Property, 4, 174-179 ; New Tendencies in the Law on Compensation awarded to Tenants in respect of improvements, 5, 213-219. — A Glance at the Recent Legislative Measures relating to the Raising of Wheat Customs Tariffs, the Fixing of Wheat Prices, the Maintenance of a proper Wheat Supply, the Wheat Market and the Promotion of Wheat Cultivation in France, Germany, Italy, Portugal, Roumania, Spain, Switzerland and Uruguay, 8, 333-344.

AUSTRALIA :

Recent Marketing Legislation in the Australian Commonwealth, 11, 470-474. — Laws and Regulations : 1, 44 ; 2, 94 ; 12, 505.

BELGIUM :

Laws and Regulations : 7, 297. — Bills : 1, 45-46 ; 4, 180.

BRITISH EMPIRE :

Bills : 3, 131.

CANADA :

Laws and Regulations, 12, 504-505.

CHILI :

Laws and Regulations : 5, 219 ; 6, 256-257.

DENMARK :

Laws and Regulations 7, 297.

EGYPT :

Laws and Regulations : 7, 300.

ENGLISH COLONIES :

Bills : 3, 131 ; 8, 344.

FINLAND :

Laws and Regulations : 7, 297-298.

FRANCE :

Laws and Regulations : 1, 45 ; 2, 95 ; 5, 220 ; 6, 257 ; 8, 333.

GERMANY :

Laws and Regulations : 8, 334. — Bibliography on Legislative Questions : 4, 180.

GREAT BRITAIN AND NORTHERN IRELAND :

Laws and Regulations : 12, 503. — Bibliography on Legislative Questions : 4, 180 ; 6, 260.

IRISH FREE STATE :

Laws and Regulations : 1, 44.

ITALY :

Laws and Regulations : 1, 44 ; 6, 257-258 ; 7, 298-299 ; 8, 334-335 ; 9, 390. — *Bibliography on Legislative Questions* : 4, 181.

MEXICO

Laws and Regulations : 1, 45.

NORWAY :

Laws and Regulations : 4, 179.

PALESTINE :

Bibliography on Legislative Questions : 6, 260.

PORTUGAL :

Laws and Regulations : 8, 335-336.

RUMANIA :

Laws and Regulations : 8, 336-337 ; 12, 503-504.

SPAIN :

Laws and Regulations : 5, 219-220 ; 8, 337-339.

SWEDEN :

Laws and Regulations : 4, 179.

SWITZERLAND :

Laws and Regulations : 8, 339-343.

UNION OF SOUTH AFRICA :

Laws and Regulations : 12, 505. — *Bills* : 3, 131 ; 6, 258 ; 8, 344-345.

UNITED STATES :

Proposed Farm Relief Legislation in the United States, 6, 249-256. — *Laws and Regulations* : 6, 256. — *Bills* : 1, 46 ; 6, 258 ; 8, 344 ; 10, 429-430. — *Bibliography on Legislative Questions* : 6, 259.

U. R. S. S. :

The Principles of " State Ownership " and " User based on Personal Labour " in Russian Agrarian Law, 9, 385-389. — *Laws and Regulations* : 1, 44-45 ; 7, 299. — *Bibliography on Legislative Questions*, 6, 258-259.

URUGUAY :

Laws and Regulations : 3, 130-131 ; 8, 343-344.

LIST OF BOOKS RECEIVED BY THE LIBRARY

List of Books Received by the Library 1, 47-52; 2, 95-100; 3, 132-139; 4, 181-184; 5, 220-224; 6, 260-264; 7, 300-304; 8, 345-348; 9, 390-392; 10, 430-432; 11, 474-476; 12, 505-508.

INTERNATIONAL REVIEW OF AGRICULTURE

PART II

MONTHLY BULLETIN

OF

AGRICULTURAL ECONOMICS AND SOCIOLOGY

ECONOMIC FLUCTUATIONS IN AGRICULTURE

World Agriculture and International Price Stabilisation.

Within recent times, the fluctuations of prices in nearly every part of the world have been the cause of economic convulsions of a most disquieting nature. The material progress of the race has undoubtedly been retarded, unemployment with its attendant social demoralisation has become the nightmare of governments, and world agriculture has suffered from a price disequilibrium which is probably the most severe within living memory. Little wonder then that remedies are being sought everywhere, palliatives such as increased credit facilities receive fairly general approbation, and economic causes of the general depression in agriculture are diligently being discussed.

A great deal of the trouble is simply due to the aftermath of war. "C'est la guerre" remains just as true an explanation as it was eleven years ago. But now, when the economic wounds of war have healed to some extent, and, notwithstanding, agriculture still remains in the doldrums, this explanation seems too vague to be satisfactory. We must look elsewhere. Although local conditions naturally vary from country to country, the phenomenon of agricultural depression is too widespread to be due to any chance combination of circumstances. The cause or causes must be fairly universal.

Causes. — A number of theories have been advanced by way of explanation. Generally speaking, they fall into three categories and may be designated briefly as the theories of: 1. monetary disturbance; 2. under-consumption; 3. over-production. All three theories have a good deal in common, but on the whole they differ in essentials.

1. The theory of monetary disturbance appears to be highly feasible. The abandonment of the gold standard during the war dislocated international price levels to such an extent that a fairly stable international price level is being gradually established only now, a decade after the war. But the post-war deflation, stabilisation or valorisation of currencies which occurred in numerous countries had, temporarily, even worse effects. During the war both industry and agriculture were spurred to the maximum production by the Governments of nearly all the countries of the world, and, in addition, both had the natural (or unnatural) incentive of constantly rising prices. In a world of destruction, production was a monopoly. With the return to more settled monetary conditions, industry was able to adjust its production comparatively rapidly to lower demand and lower prices owing to

its very short period of production and the high rate of turnover, the heavy industries excepted. Agriculture with its long-term period of production lacked this mobility, and like the heavy industries, only more so, suffered from lack of adaptability by undergoing a protracted period of severe depression.

This depression was later intensified in some countries such as Britain and Italy by the return to the gold standard, because this measure involved in turn a temporary contraction of credit, considerable unemployment in industry and consequently a reduction in the demand for agricultural products, and as this demand is exceedingly inelastic, a serious fall in agricultural prices. It is also possible that the contraction of credit itself was further accentuated by two factors, *viz.*, the maldistribution of gold stocks throughout the world or, in other words, their concentration in the United States, and the tendency towards diminished gold production, as noted by Professor Cassel.

It must be understood however that a diminution of gold production affects agricultural prices only indirectly. Gold is not the universal determinant of prices, as will be demonstrated later in this article. Reduced gold production affects agriculture indirectly in two ways: (a) in the manner described above, i. e., by the restriction of credit to industry and the consequent lack of demand, or more accurately, the ineffective demand of the industrial classes which is the cause of falling agricultural prices; (b) by the restriction of credit to agriculture, a restriction which at such times is generally much more stringent than in its application to industry and throws into much more glaring contrast the normal disparity of the financial facilities accorded to the two branches of production in a great many countries. The reason why bank credit is more restricted in agriculture than in industry is that industry in general has a shorter term of production, bank industrial credits are therefore more liquid, and do not become "frozen" as readily as agricultural credits, and accordingly enjoy a first preference. The normal effect of this indirect economic pressure by means of credit restriction would be the gradual restriction of agricultural production, if the farmer were governed by solely economic considerations, but fortunately for the world, and unfortunately for himself, he is not. In so far as he is self-supporting and independent of large markets, he continues to produce in the most discouraging circumstances, and by failure and also by inability to adapt his activities to new conditions, prolongs the period of depression. But in any case, the restriction of both agricultural and industrial production by whatever means it is attained seems the most highly irrational procedure it is possible to imagine, and from this point of view the return to the Gold Standard must be condemned. It is difficult to imagine why modern man, supposedly the most rational being in the history of the universe, regulates his economic activities in accordance with the amount of yellow metal contained in the soil.

But there is much to be said in favour of the Gold Standard. The abuses which have attended departures from this standard in the past make us sceptical of the possibilities of any other standard, and the restoration of international price equilibrium which is following in its wake has undoubtedly facilitated international trade in agricultural products. The question remains however whether international price stability could be attained by less irrational methods, and the uncertainty attending the fluctuations in the purchasing power of gold itself makes the necessity of research for other means of attaining international price stability more urgent.

The League of Nations has recognised this fact by adoption of a resolution at its recent Council Meeting approving the proposal contained in the Report of the Financial Committee for the appointment of a small special committee to examine

and report upon the causes of fluctuations in the purchasing power of gold and their effect on the economic life of nations. The Financial Committee came to the conclusion that "considerable disagreement and often lack of knowledge exist on basic facts, and that a systematic international investigation should therefore be made". (*The Times*, London, Wednesday, January 2, 1929). Before discussing the causes of fluctuations in the purchasing power of gold and their remedies, let us consider other theories of the economic depression in agriculture.

2. The theory of under-consumption is advanced in the Final Report of the International Economic Conference at Geneva. "The documentation of the Conference indicates that if agricultural prices are low and the agricultural community in many countries in a state of depression, it is not because there has been any abnormal increase in the production of food stuffs, but because the demand from certain manufacturing countries in Europe is inadequate". This explanation is much more satisfactory even though it is slightly indefinite. The purchasing power of Europe in addition to the natural impoverishment caused by the war has been very greatly reduced by the diminished demand for industrial products from non-European countries owing to the increased industrial self-sufficiency of the latter which with their increased capital resources have been able to develop new agricultural territory at a time when European agriculture could not find sufficient capital to restore fertility to the impoverished contents of the soil. Consequently the products of agricultural countries overseas could compete on very favourable terms with the agricultural products of Europe and at the same time those countries could dispense with a part of European industrial exports.

Viewing the world as a whole, however, we find that agricultural production has not increased in proportion to population, yet agricultural prices remain comparatively low, though higher than before the war. This fact in itself seems to indicate lack of demand especially as the restriction of agricultural production is only now beginning to become visible in prices.

3. The theory of over-production is contradicted by known facts. Any surplus in the form of swollen stocks which exists is due not to lack of demand, but to the ineffectiveness of demand, *i. e.*, lack of purchasing power.

Remedies. — A number of remedies have been proposed to eliminate the more violent fluctuations of prices and these remedies vary more or less in accordance with the theories of causes of price disequilibrium propounded by their authors. The first most important remedy proposed by the late Friedrich Bendixen of Hamburg before the war and by Mr. J. M. Keynes of Cambridge University after the war, is the abandonment of the Gold Standard, the former proposing to determine the quantity of currency "according to the needs of commerce", and, the latter by index numbers of the price of a standard commodity. Prof. Irving Fisher would regulate the metallic content of the gold dollar according to its commodity value as measured by an extremely comprehensive index of purchasing power. Prof. Cassel of Sweden regards the stabilisation of internal and external purchasing power parities as the only means of preventing violent price fluctuations and is also disposed to consider the demonetisation of gold if necessary. Another proposal would stabilise prices by credit manipulation, while the Genoa Conference recommended co-operation between Central Banks for this purpose. Sir Henry Strakosch in a report prepared for the League of Nations Finance Committee says, "The conclusion is irresistible that if we are to be saved the complex reactions, the economic jolts and set-backs and the social and political friction which frequent and violent changes in the distribution of national wealth and income through fluctuations in the purchasing power of gold produce — if, in a word, economic progress is not

to be severely impeded, concerted action by the gold standard countries is imperative. If it is impossible to control the supply of monetary gold — and it is manifest that it cannot be controlled — then it is clear that the problem can only be attacked from the side of monetary policy", and in a letter to the "Times" (Monday, December 3, 1928), Sir Henry declared himself in favour of organising international price stability by monetary means and of averting an international scramble for gold, the effect of which would be to depress the world price-level.

The managed currency solution based on index numbers of prices is obviously a leap in the dark. The index numbers of prices in different countries are not at all comparable, and if the currencies of the different countries are going to be regulated according to the movements of innumerable different index numbers, then it is obvious that from an international point of view, an intolerable currency chaos is going to prevail which will impede the development of international trade, and as the Economic Conference pointed out, this trade consists primarily of the exchange of agricultural for industrial products. From this point of view, this solution is merely the practical application of the "State Theory of Money" of Professor Knapp. Another objection declares that it would involve inflation, but this objection is not valid in the first instance, because the proposal is not intentionally inflationist; it is a proposal for the stabilisation of prices by monetary manipulation, to prevent such a fall in prices as would inhibit production and also to prevent such a rise as would lead to unhealthy boom conditions.

It would probably in certain circumstances lead to inflation. If for instance the standard composite commodity index were weighted unduly with industrial commodities, inflation would be inevitable *because the general price level is determined not by industrial prices but by agricultural prices and these in turn are determined by agricultural production* as will be proved later in the course of this article, and there is undoubtedly a tendency for published index numbers of the cost of living to reflect more and more industrial price movements. (See Table 5 in article on "The Development of the Demand for Agricultural Products" in this issue). This tendency is also noticeable in wholesale price indices, apart from a temporary increase in the influence of agricultural prices during the war. The choice of index is therefore a very difficult problem, because there is no such thing as a standard composite commodity, a conception which is a fiction of economic theory unconfirmed by actual fact. If an index of prices with an industrial bias were selected as a basis for currency manipulation — which could quite easily occur in the present state of ignorance regarding the interreaction of prices — catastrophe might easily ensue.

Manipulation of the currency to avert a fall in agricultural prices would be disastrous in this event, because it could only have an effect on production at one period of the year (sowing time) and by its incentive to production would tend, if used at this period, to intensify the already existing glut of supplies which is evident in falling prices. If used at any other period of the year (apart from harvest time) it would result in the farmer being even more exploited by middlemen than he is now, because agricultural produce sold by the farmer during periods of low prices would be sold by middlemen to the consumer at high prices. Again if industrial prices were falling and fresh currency were injected into the market to stimulate industrial enterprise and employment, saturation of the already partially glutted market would occur much sooner in industry than in agriculture, owing to the short term period of production of the former. Theoretically, according to the managed currency advocates, further amounts of currency should be thrown on the market to avert this fall, and so a perpetual industrial "Hochkonjunktur" would be created with all industrial unemployment eliminated, but in practice, as general

price index numbers are governed by agricultural prices, this step would not be taken, the industrial market would remain saturated until its surplus production had been absorbed, and until this happened, the industrial unemployed would remain unemployed. The managed currency remedy is therefore not a remedy for unemployment.

Let us now consider the opposite case of rising prices. Rising prices are due in a large measure to a scarcity of agricultural supply over a certain period of years. This statement is not merely a matter of economic theory or phantasy. *It is a matter of statistical fact and is based on economic and statistical investigations which are now proceeding at the International Institute of Agriculture.* If therefore in accordance with the principles of managed currency, monetary supplies are withdrawn in order to bring down prices, agricultural prices would yield only slightly whereas industrial prices would fall with a crash owing to the different elasticities of demand for the two groups of products. The danger of reducing agricultural prices and inhibiting production at such times of relative scarcity is obvious. In this respect the proposal is very dangerous indeed.

The over production of fixed capital which is the marked characteristic of all boom periods would tend to be perpetuated. Comparatively soon, productive capacity could be overextended as the markets became saturated with supplies. In order to avert a fall in prices, further currency would be forced on the market, a further extension of productive capacity would occur, and in order to prevent another fall in prices, still greater amounts of currency would have to be issued. So a vicious circle would be created, or as it has been termed by a German author "Die Schraube ohne Ende" (Harburger). As regards agriculture, there is considerable reason for believing that crop production (*i. e.*, cereals, etc.) would for a limited period be overextended at the expense of live stock production judging from the behaviour of the two categories in periods of rising and falling prices. Agricultural and industrial production and prices would become more divorced than they are at present, and the problem of the price scissors would be magnified to an intolerable extent.

Prof. Irving Fisher's solution of the compensated dollar is based on the premise that the rise which has occurred in the general price level cannot be ascribed to changes of commodity supply. "The price level may rise because of an increase of money or of deposit currency, or because of their rapidity of circulation, or because of a decrease in the volume of trade, and back of these causes (money, deposits, their velocities and trade) lie innumerable other causes acting through one or more of them". ("Stabilising the Dollar", p. 75). Any latent surplus existing of a certain good or group of commodities, will, according to Prof. Fisher, always be compensated by a lack of other goods. Consequently the general rise in the world market price level since the war can only be due to the fall in the purchasing power of money, *i. e.*, to the fluctuations of the value of gold.

The premise on which the theory is based is, it appears to us, wrong, but the remedy prescribed may be the correct one. Since the war, the trend of agricultural production has not kept pace with the increase of population, and as agricultural production determines the general level of prices, *it is exactly the shortage of a certain group of commodities which cannot be compensated by a surplus of any other commodities that has caused the rise in the price level.* If however the gold value content of the dollar were altered in accordance with changes in agricultural production and prices, it is possible that price stability might be attained.

Professor Cassel's solution of the problem of international price stabilisation is based on the consolidation and equilibrium of internal and external purchasing

index from the price of wheat (See Chart I) and again obtained satisfactory results. In case, however, this correlation should be the result of chance, we investigated by the same method the correlation between the average farm price of wheat on December of each year and the general price index, and obtained a correlation of 0.922, a result which though less satisfactory was as close as could be expected, and afforded sufficient confirmation of our thesis.

The next step was the correlation of the production of wheat and the general price index. As is well known, there is a high negative correlation between the production and the price of wheat. There should therefore be a high negative correlation between the production of wheat and the general price index. Naturally the world production of wheat must be considered because United States production is not a dominant factor in prices. Investigation revealed a correlation of 0.940 between the world wheat production and the Bureau of Labor Statistics index for all commodities. Judging by these results and by other investigations now proceeding, we believe that there is some possibility of forecasting roughly the general price index in the United States, from the world production of wheat. For the present, we must be content to give a chart of the general price index, and the general price index computed from wheat production (See Chart 2).

Turning now to wheat itself, we have worked out a formula for the pre-war period whereby the farm price of wheat can be roughly computed. The actual prices and the prices computed from the formula are shown in the following diagram (Chart 3). Had the formula been worked out in 1913, it could have been used to forecast the price of wheat on 1 December 1914. The actual price was 98.6 cents per bushel; the price forecast by using the formula would have been 93.5. The price on 1 December 1913 was 79.9 cents per bushel, and the sharp rise which took place in 1914 could therefore have been clearly foreseen. In making this computation, no data were used which would not have been known at the end of 1913. A closer approximation can be obtained by introducing the production of wheat into the formula, and a still closer approximation if the production of other cereals is introduced. Used to forecast the December prices of wheat in 1914, this formula gives the surprisingly close result of 97.4 cents per bushel as compared with 98.6 cents per bushel, but unfortunately it could not have been so used until the production of wheat and certain other cereals were known or could be approximately estimated.

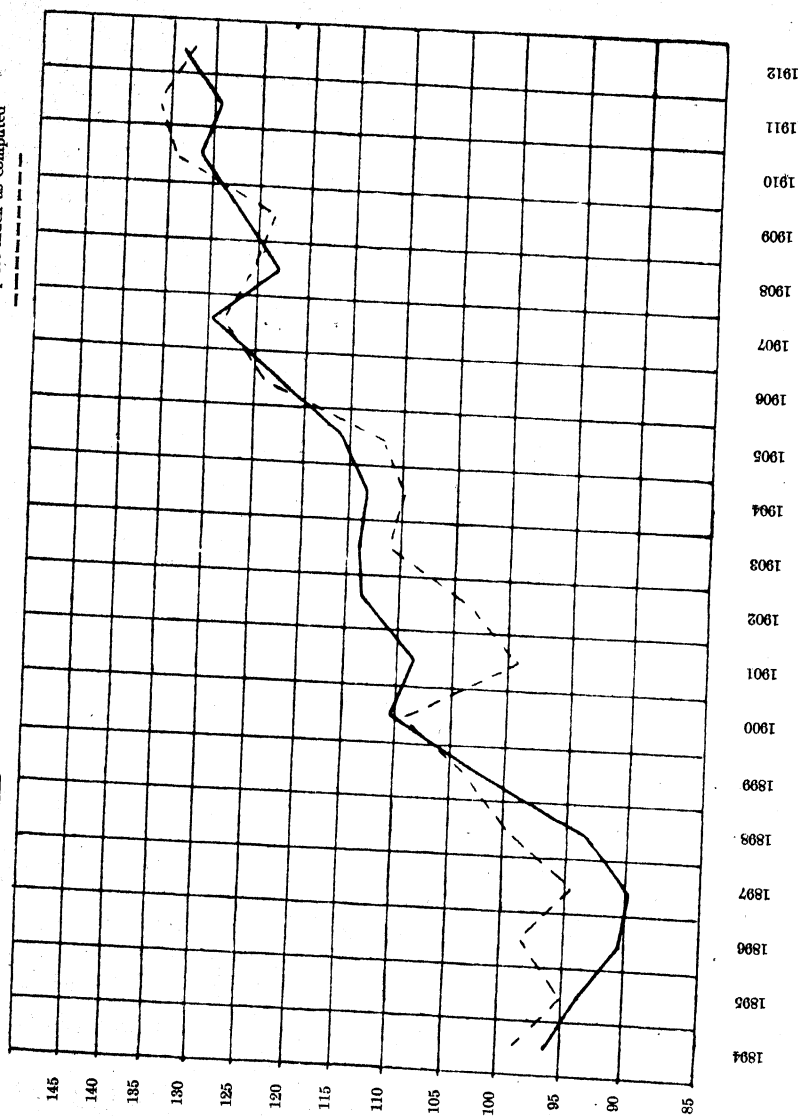
The results so far obtained are encouraging and it is probable that still more accurate formulae will be obtained when the system tried out for the United States for the period 1891 to 1913 will be applied to other countries and to later periods. As the movements of the price indices of nearly any country are very similar, and as we have already made a preliminary test of the whole period up to 1926 which has yielded good results, the conclusion is justified that better results can be obtained. Nor is it impossible that a method will be found of forecasting the production of wheat. There is evidence of periodicity in the yield of wheat and if the nature of this periodicity can be ascertained, rough estimates of the production will be obtainable which may be sufficiently accurate to enable us to foretell the tendencies of wheat prices with comparatively great accuracy. It should however be noted that no forecast can represent more than a high degree of probability; there is always the possibility that the tendency foretold may be counteracted by circumstances which cannot be foreseen.

But from these investigations, from the effect on the price level of agricultural production and prices in different years, we conclude that there exists a *normal level of prices*, a conception akin to the theory of Prof. Cassel, dominating,

CHART I. — *Computation from the Chicago Price of Wheat of the General Price Index in the United States in each Year from 1894 to 1912 (logarithmically charted).*

Actual general price index

General price index as computed



yet entirely distinct from the conception of the general level of prices as measured by index numbers, and one which, if it is possible to isolate it by mathematical means and confirm it by statistics, should furnish a clue to the solution of many important economic problems, including that of the trade cycle.

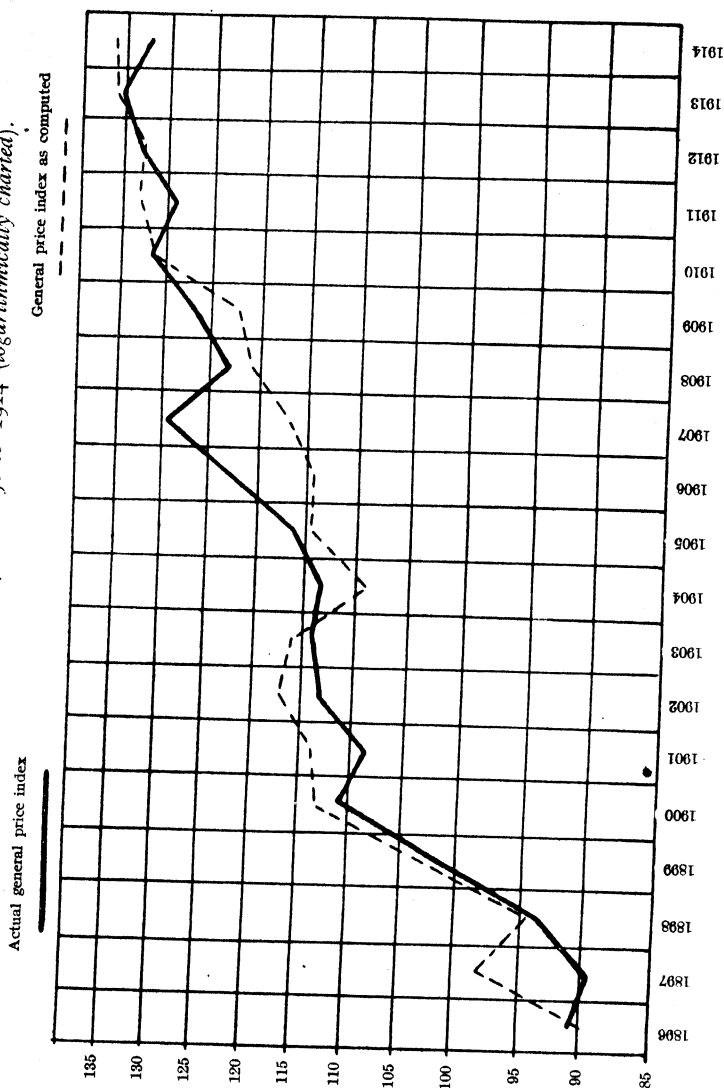
* * *

Although a high correlation between two elements may be the result of chance in one instance, the series of high correlations obtained in these investigations seems to confirm beyond doubt that agricultural production and prices determine the world market price level, monetary conditions remaining the same. Reverting to the problem of international price stabilisation, we must now consider the implications of this fact.

First of all, if agricultural production determines the world price level, the influence of gold on the price level is not direct but indirect. That is to say, gold itself is not the universal determinant of prices but merely a medium of exchange which has acquired a certain scarcity value, because of the difficulties of reproduction. The well known correlation which has been observed between gold production and the general index numbers of prices in various countries is due to the fact that any abnormal accession to gold stocks throughout the world by its encouragement of industrial enterprise in the form of cheap credit facilities increases the purchasing power of the industrial classes and also the demand for agricultural products. This increased demand is reflected in rising prices for agricultural products, and consequently in the general index numbers of prices. Similarly if the production of gold falls below normal, purchasing power is restricted and ineffective demand brings down agricultural prices until agricultural production becomes adjusted to the new conditions. If however the supply of gold (or of money in non-gold standard countries) remains the same, the factor which determines the general level of prices is agricultural production. The price falls which occurred towards the end of 1907 and about the middle of 1920 would appear to have been caused by abnormally good harvests in 1906-07 and in 1919-20, the effect of the latter being accentuated by ineffective demand in Europe.

Secondly, it is clear that if all the nations begin a scramble for gold now, the prices of all commodities will be adversely affected in a downward direction and this fall will be accentuated by the shortage of gold which Professor Cassel and other experts declare already exists, and by the concentration of the available supply in the United States. European industry will suffer and consequently American agriculture. Industry in the United States may not be affected for a time, because the action of the Federal Reserve Board in "sterilising" the gold in its possession, and refusing to allow it to become the cover for an inflated credit structure may prevent that immediate credit restriction in American industry which would normally follow increased European demand for gold. But as European industry will become depressed, American agriculture will lose an important export market and consequently its purchasing capacity for the products of American industry will be diminished, so that in the long run American industry *will* be adversely affected. European agriculture will also be very severely hit at a time when signs of recovery are just becoming visible. Production will naturally diminish, especially after the heavy world harvests of the last two years which in themselves should tend to bring down prices. It should be noted however that since the war, the trend of agricultural production has not kept pace with the increase of population, so that a long-term tendency exists which should enable

CHART II. — *Computation from the World Production of Wheat of the General Price Index in the United States in each Year from 1896 to 1914 (logarithmically charted).*



economic unit, the extension of the production of certain groups of such commodities over and above the individual need, an exchange of surplus products developed between the single economic units, leading thus to barter and exchange economy. Barter became the basis of price, the form of the price being originally merely accessory. The increased productivity of human work — making possible at once an extension of human settlement and a closer drawing together of dwelling places — and the diversity of natural conditions of production, gave rise as time went on to a strongly marked division of labour and to a multiplication of needs. Modern economy knows countless needs and corresponding to these are a host of types of production, while the main groups of agricultural and industrial production are sharply divided from each other.

The joint economy, in its initial stage, forms a more or less compact mass of commodities fairly constant in quantity. In its expansion it is dependent on the average output, and on the consumption capacity of the individual economic unit. The distribution of the income of this joint economy to the constituent elements should proceed in accordance with their relative productivity, but as a matter of fact the separate units receive their shares in the proportion of the relative scarcity, as compared with demand, of the commodities produced by the separate economic units. This relation is expressed in price.

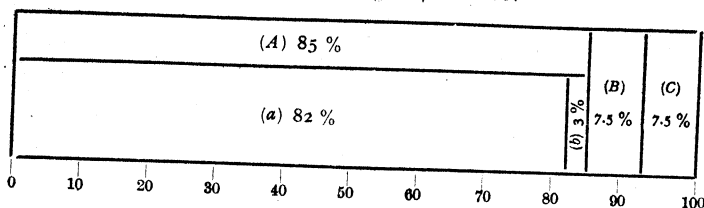
The post-war time is characterised by the presence of a maladjustment between the shares of the income taken by agriculture and industry respectively, a maladjustment which is somewhat obscured by the higher index figures of industrial products and by the farm accountancy calculations of returns on capital. The reason for this shifting of income is to be found in a marked change in the equilibrium between supply and demand in agriculture, *i. e.*, the supply of agricultural products has become proportionately greater than the demand for them.

Agricultural production presents a number of special features rendering it from the technical market standpoint much more troublesome than industrial production. Agricultural production is conditioned by a series of natural factors, the effects of which cannot be previously measured and estimated; moreover the comparatively large numbers of farmers are only with difficulty effecting co-ordination of present production. The greater regularity of industrial production, the already established organisation of industry, vertically and horizontally, together with the fact that most industrial products can be more easily stored, constitute the main advantages of industrial as compared with agricultural production in respect of influence on demand and hence price formation. Finally the price level of the absolutely essential foodstuffs has much greater economic reaction than that of the requirements of the higher standards of living.

The aspect of demand which is the special object of this enquiry has developed differently for the two production groups. The total demand for the separate commodities is limited by the total population and by its standard of living. The relation between the industrial and agricultural factors is in fact determined by the type of this standard. Table I represents a scheme of the division of the main requirements as they are met with on the lowest stage of culture.

Primitive man and primitive economy recognise the primal need as food, and next, according to the geographical position of the settlement, also dwelling and clothing requirements. Nourishment is taken first in the form of uncooked food, with practically no preparation or transformation, and without involving transport on any scale. Food requirements, measured in calories or otherwise in some unit of nourishment, is primarily determined by physiological laws, and the physiological quantity varies relatively little. The increase already mentioned in the

TABLE I. — *Distribution of Requirements of the Isolated Economy and Primitive Stages of Culture.*



(A) = Food.

(a) = Value of unprepared food.

(b) Some preparation on the farm but no distribution or transport costs.

(B) = House room.

(C) = Clothing.

number of requirements, together with the vocational splitting of the human race, gave the development of exchange economy a powerful impulse.

From this exchange there come to be additional costs for transport and handling of commodities and especially of food: these costs give rise to activities which are no longer of an agricultural kind and hence can only produce industrial or trading income. The forms under which nourishment is consumed undergo, with the rise in the standard of living, considerable refinement, partly the result of transformation in the bodies of animals, partly of mechanical industrial operations. The value of foodstuffs consumed varies much more than the natural quantities. From the unaltered field and forest products the transition was first to the animal products and then to the more elaborate preparation and transformation of both. It is interesting in this connection that the cost of a unit of vegetable nutrition does not tend to advance so readily as that of the animal form, as appears from the following comparison of the costs of both forms on two different levels of living:

(a) *Price in crowns for 1000 calories (Czechoslovakia).*

	Animal food		Vegetable food		Total of all foodstuffs	
	Workman	Official	Workman	Official	Workman	Official
1923 . . .	4.62	5.56	1.11	1.11	2.16	2.86
1924 . . .	4.82	5.79	1.26	1.26	2.33	3.04
1925 . . .	4.79	5.71	1.19	1.21	2.29	3.00
1926 . . .	4.53	5.36	1.40	1.44	2.37	3.01
1927 . . .	4.67	5.56	1.39	1.37	2.40	3.04

(b) *Price for 20,000 calories (1914):*

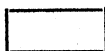
	Frs.
France: working class family	12.67
France: middle class family	14.08
England: working class family	10.99
Italy: working class family	11.31
U. S. A.: working class family	12.57

The fact is established by these tables that on the different social levels use is made of the same quantity of food units but in differing forms and the difference in the prices paid must be correspondingly great.

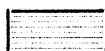
Costs of preparation and transformation of food stuffs as being in no sense agricultural activities are constituents of industrial income. They are however introduced into the costs of living index as parts of the cost of food, and appear in house-keeping accounts under the costs of necessities. Table II shows the proportionate parts of the transformation costs in the consumption value of some of the principal products, as observed in connection with Swiss food economy.

TABLE II. — *Relation of Transformation Costs to the Gross Value of Some Important Foodstuffs.*

	Bread, flour, macaroni	Milk and dairy products	Meat and pork products	Potatoes, green vegetables and fruit.	Total foodstuffs.
100					
90					
80	44 %	29 %	22 %	40 %	33 %
70					
60					
50					
40					
30	56 %	71 %	78 %	60 %	67 %
20					
10					
0					



= Growers' share of the price to the consumer of the foodstuffs.



= Distribution and manufacturing costs of the foodstuffs.

Value of foodstuff to consumer = 100.

From the above table it is evident that in the example adduced only two-thirds of the value or of the costs of foodstuffs for the consumers pass back to the producers.

The marked development in increased productivity has a powerful and incalculable effect on the extension of kinds of demand. The significance of this tendency for the producers of agricultural products lies in the fact, that the greater number of these new demands are not on the side of nutrition but are met through industry. Hence there results a relative rigidity in the extension of agricultural supply as compared to that of industry. The latter is always expanding and branching out and stimulating the demand for fresh adjuncts to life, and accordingly, a fact which is especially important for price formation, the industrial supply can be much more effectively watched and regulated internationally.

The shifting of demand already mentioned has thus actually caused the food ratio in the total consumption to become gradually smaller as the total income or total consumption increased. Rising income and higher standard of living bring the non-agricultural requirements into greater prominence. Table III shows for different countries the course of the value ratio of food to the total consumption according to the fluctuation in income.

TABLE III-a. — *Graph of the Proportion of the Cost of Food to the Total Costs of Living in the Various Income Classes.*

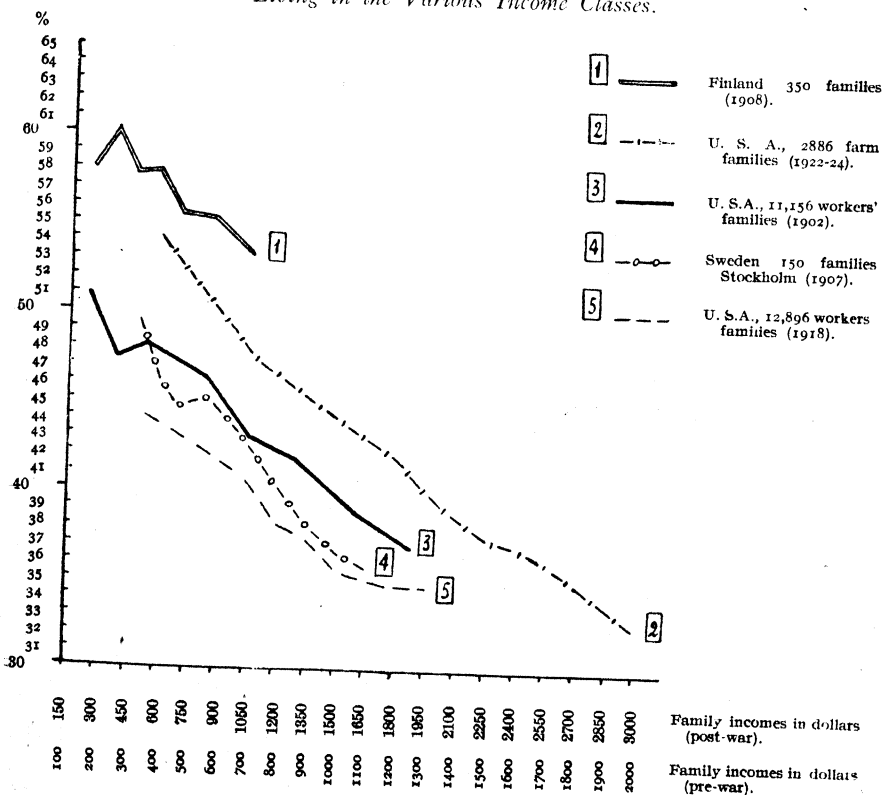
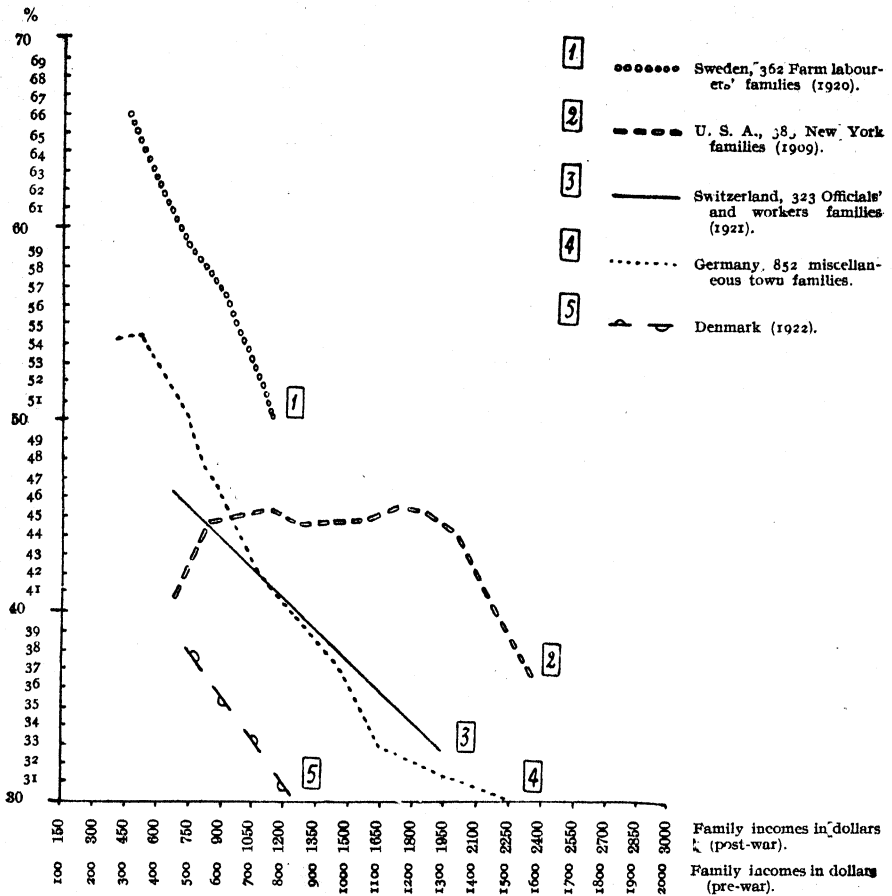


TABLE III.-b. — *Proportion of Cost of Food to Total Cost of Living in the Different Income Classes.*



The fall in the ratio of foods costs to total costs with a rising income is an obvious tendency. What is the relation with the absolute value of the consumed foodstuffs? This does increase with higher income but not in relation to the increase in total consumption, and in other requirements. Hence the absolute expenditure per consumption unit for the principal groups of requirements, taking an average of the American working families to be quoted later, fluctuates in the following proportions.

	Food	Clothing	Other requirements omitting rent)	Total consumption
Lowest income	100	100	100	100
Highest income	160	300	240	200

Here it should again be noted that the small additional consumption in food-stuffs was partly due to the more elaborate forms which are the result of industrial processes, and accordingly the actual "increased value" for the agricultural producers becomes absolutely and relatively smaller. For the price margins of the two main kinds of expenditure, the relative ratios are primarily significant. Table IV shows graphically the various tendencies of the main demands with rising standard of living.

TABLE IV. — *Expenditure on Primary Requirements with Rising Income*
(U. S. A. Worker's Family).

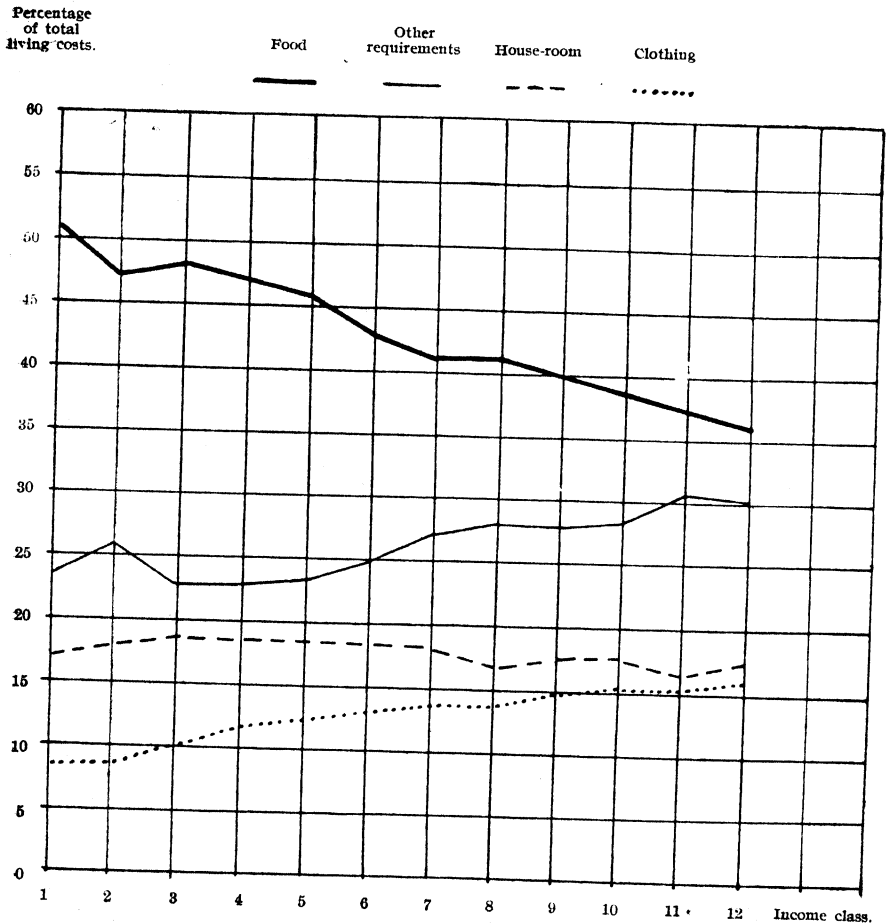


Table V brings together a large number of comparative figures in regard to the relative proportion of expenditure on food with different categories of income in the

*** — In. I Ec.

various countries. The data cannot of course be representative for all countries, since the number of household accounts ascertained have not sufficient statistical weight. They may however be regarded as fairly complete as indicating the tendencies due to periods of time and income levels.

TABLE V. — *Proportion of Expenditure on Food to Total Household Expenditure in Various Countries and at Different Periods.*

Countries and Income Levels		Cost of Food in percentage of Total Expenditure		
		Before 1914	1914-19	After 1919
		%	%	%
U. S. A. :	Workers' families	(1902) 48,2	(1918) 38,2	—
"	" " white	—	(1916) 40,6	—
"	" " negro	—	(1916) 39,2	—
"	Farming families N. Y.	—	—	(1924) 44,2
"	" " Iowa, Ohio.	—	—	(1926) 37,2
"	" " various States	—	—	(1927) 49,0
"	" " "	—	—	(1922-24) 42,0
"	General average	—	—	43,0
France :	Farm labourer	(1907) 70,0	—	—
"	Workman	(1913-14) 69,0	—	—
"	Employee	(1913-14) 60,0	—	—
"	Artisan	(1913-14) 65,6	—	—
Canada :	Normal family	(1914) 52,0	(1915) 57,0	—
"	" " "	—	(1916) 59,0	—
"	" " "	—	(1917) 63,0	—
"	" " "	—	(1918) 63,0	—
England :	Worker's family	(1914) 54,0	(1918) 62,0	—
"	Worker in specially skilled occupations	(1914) 55,0	(1918) 59,0	—
"	Skilled workers	(1914) 56,0	(1918) 63,0	—
"	Unskilled	(1914) 57,0	(1918) 66,0	—
Germany :	Worker's family	—	(1916) 52,5	—
Denmark :	General index	(1914) 41,6	—	(1925) 40,6
"	Workman (capital)	(1909) 44,4	—	—
"	" (in provincial town)	(1909) 46,4	—	—
"	Farm artisan	(1909) 52,8	—	—
"	Farm labourer	(1909) 61,2	—	—
"	Small holder	(1909) 55,4	—	—
"	Holder of medium-sized farm	(1909) 37,8	—	—
Sweden :	Worker in industry	(1913-14) 23,0	—	(1923) 38,0
"	" " on land	—	—	(1920) 61,0
Austria :	Worker's family (Vienna)	(1912-14) 50,6	—	—
"	General index (official)	—	—	(1926) 47,2
Portugal :	Worker's family	—	(1916) 61,0	—
Czechoslovakia :	Worker's family	—	—	(1923) 61,0
"	" " "	—	—	(1928) 64,0
"	Family of an official	—	—	(1923) 47,6
"	" " "	—	—	(1928) 50,0
Switzerland :	Worker and Official	(1912) 45,8	—	—
"	Official and Employee	(1912) 40,0	(1919) 38,8	(1921) 34,2
"	Skilled worker	(1912) 49,0	(1919) 46,8	(1921) 44,4
"	Unskilled	(1912) 53,0	(1919) 50,3	(1921) 48,1
"	Farming family	—	—	(1925) 55,0
"	General index (official)	—	—	(1922) 57,0

The table reveals differences between countries in the relative food requirements while certain extreme values (belonging to the highest income levels) are not brought in at all. Within a household a whole series of factors influence the way in which the total consumption is apportioned, the factor of the greatest importance being the absolute height of the income. Questions of occupation, division of the sexes, play a part. Thus it appears that the expenditure on food is generally high in the case of farmers although elaboration costs are only partially included, making the proportion seem lower than it really is; the explanation of these higher food ratios lies in the fact that physical work makes necessary larger quantities of food and the average farmer belongs to the small income classes. Within the same income level, an importance naturally attaches to the size of the

family, the age of members of the family, relation of the children to the adults, and habits as regards food and feeding. An examination of the household accounts of American farm families established the facts, for example, that the culture level of the parents, the length of the working day, the number of days of rest, the size of the farm, the length of time the farm has been owned, the degree of indebtedness, the income derived from non-agricultural sources, are all in a standard relation to the proportion of expenditure on food. The majority of these factors are definitely only special forms of expression of the income levels.

The special working of certain of the factors already mentioned will now be dealt with. The influence of the size of the family, when the amount of income is the same, is of much interest. The subjoined pre-war data supply information as follows:

Number of members of a family	Proportion of expenditure on food to total outlay	
	American results	German results
	Income class \$ 1,100 to 1,200	Income class 3,000 to 4,000 Marks
	%	%
2	31.3	33.6
3	37.3	34.6
4	38.7	32.7
5	41.8	38.7
6	39.5	39.4
7	40.0	40.1
8	—	45.5
9	—	52.6
10	—	59.2

The increase in size of family expresses itself as fall in income, and thus in rise of the proportion of expenditure on food. If the absolute consumption of value in the form of food of the different large families is taken into consideration, the consumption unit in the small families becomes much more important than in the large families.

Expenditure on Food per Consumption Unit (pre-war).

Number of consumption units per family	U. S. A. Dollars	Germany Marks
2	121	478
3	109	435
4	97	410
5	86	408
6	76	374
7	66	350
8		386
9		328

The reason for this state of affairs must in any case be, at least partially, that in the small families the foodstuffs are usually not fully used up and may be wasted.

An interesting comparison is also afforded by the influence of the number of children and of their ages on the consumption of food. The following ratios are to be found in returns of American families.

		Percentage of expenditure on food to total cost of living
Families :		
with no children		39.6 per cent.
with six children		47.5 " "
Families with 2 children :		
(a) aged from 6 to 11		40.5 " "
(b) aged from 12 to 18.		38.5 " "

The younger the children the higher becomes the relative and absolute consumption of food.

Recently the different ages and the age group distribution have been utilised for establishing estimates of basal requirements and also forecasts of requirements. P. Levin establishes the following index for the food consumption of the different age levels :

Age	Food index	Age	Food index
0-4 years	0.37	50-54 year	0.90
5-9 "	0.48	55-59 "	0.90
10-14 "	0.60	60-64 "	0.75
15-19 "	0.69	65-69 "	0.75
20-24 "	0.86	70-74 "	0.75
25-29 "	0.90	75-79 "	0.75
30-34 "	0.90	80-84 "	0.75
35-39 "	0.90	85-89 "	0.75
40-44 "	0.90	90-94 "	0.75
45-49 "	0.90		

With this statement of relative food requirements at hand, it is possible to determine the variation in demand according to the distribution of the age groups of the population.

In Table VI are shown the proportionate parts (expressed as percentages) which have been reckoned for the consumption of the different age groups in the total population arranged by countries and years.

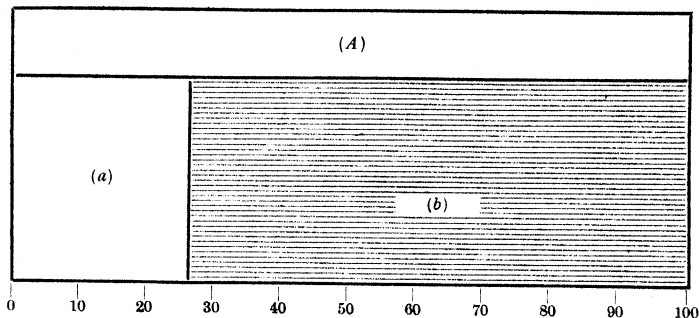
These comparative figures give an indication as to the age composition of the population of the various countries. Since the different age composition, according to what is above stated, is a partial cause of the varying index of food consumption, what has been established in the earlier tables is partly explained. In the principal consuming countries there is also noticeable by the variation in the birth rate figures a clear tendency in the age group distribution of the population, which was somewhat too sharply emphasised by the war, but was quite clearly recognisable before the war.

TABLE VI. — *Development of Age-composition of Population in Different Countries.*

			Age groups			
			up to 15 years	15-60 years	over 60 years	
			%	%	%	%
Germany	1900		85	57	8	
	1910		34	58	8	
	1920		28	68	9	
Belgium	1900		32	59	9	
	1910		30	60	10	
	1920		25	65	10	
Denmark	1900		34	56	10	
	1910		33	57	10	
	1920		31	59	10	
Finland	1900		34	57	9	
	1910		34	57	9	
	1920		32	59	9	
France	1901		26	61	13	
	1911		26	61	13	
	1921		23	63	14	
England and Wales	1901		32	60	8	
	1911		30	62	8	
	1921		26	64	8	
Scotland	1901		33	59	8	
	1911		32	59	9	
	1921		29	61	10	
Ireland	1901		30	59	11	
	1911		26	63	11	
Italy	1900		34	56	10	
	1910		34	55	11	
Netherlands	1899		35	56	9	
	1909		34	56	10	
	1920		33	58	9	
Norway	1900		35	54	11	
	1919		35	54	11	
	1920		32	57	11	
Austria	1900		34	57	9	
	1911		34	57	9	
	1923		25	65	10	
Portugal	1900		34	56	10	
	1911		34	56	10	
	1920		33	58	9	
Sweden	1900		32	56	12	
	1910		32	56	12	
	1920		29	59	12	
Switzerland	1900		31	60	9	
	1910		31	60	9	
	1920		27	63	10	
Spain	1900		35	58	7	
	1910		36	56	8	
	1920		34	57	9	
Hungary	1900		36	57	7	
	1910		36	56	8	
	1920		31	60	9	
Japan	1898		33	59	8	
	1908		34	57	9	
	1928		35	56	9	
U. S. A.	1900		34	59	7	
	1910		32	61	7	
	1920		32	61	7	
Canada	1901		34	57	9	
	1911		38	59	8	
	1921		34	58	8	
			up to 20 years	20-40 years	40-60 years	60 and over years
Greece	1910		49	29	16	6
Bulgaria	1910		50	27	15	8
Brazil	1910		49	40	8	3
Mexico	1910		52	32	13	3

the demand for agricultural products. The distribution of family consumption in a modern budget for a typical representative of the consumers, namely, a working man's family, is shown in the following graphs.

TABLE XI. — *Proportional Shares of Agriculture and Industry in the Satisfaction of the Requirements of an American Working-man's Family.*



(A) = Total requirement ; including :
 (a) = 26 % agricultural origin
 (b) = 74 % industrial origin.

If the requirements are grouped into the two main groups, it is clear that the share of agricultural production in the total expenditure of a consumer of this type is only 26 per cent. For world economy as a whole, the share is naturally much higher, but if transformation costs are deducted, a maladjustment becomes apparent between the agricultural and the industrial part of the world income especially if it is remembered that the non-agricultural population constitute at most one-fourth of the population of the world.

Increased demand for agricultural products is in the first instance dependent on increase in population, but the industrial increased demand is, as has been said, larger ; and in addition, a special advance towards a rise in standard of living is being made by the industrial classes.

The agricultural market may be expanded as the result of new demands involving and utilising agricultural products. The stimulation of such new requirements in the direction of small luxuries, and constituents of a higher standard of living (e. g., fancy dishes, choice fruit, beverages, cream ices, etc.) can be much facilitated by the study of requirements and of consumers.

A change of prices of agricultural products under a system of *laissez faire* is only possible when the present area of food cultivation has reached the margin and the demand of the adult population exceeds average agricultural production. The exact point of time at which this condition arises is however difficult to foresee, and in any case it still too far ahead relatively to make it possible to wait passively for its arrival. Perhaps for a few years certain natural events will suspend the inflation of price of agricultural products as compared with other products, but the agricultural depression will continue for some time longer.

It is the aim of the agricultural interests of the present day to influence by means of production statistics, trade statements, etc., the price formation of products ; these methods are however ineffective so long as they are not supplemented by an

international organisation of agricultural production. The Canadian wheat pools should be the precursors of this movement. Agriculture must learn from other economic groups which have achieved power on the market by organization. Only a strict control of production maintained by the producers themselves can put an end to the inflation stage of agricultural production. Such an organisation would first have to ascertain the extent and the inter-reactions of the demand by means of the factors shown in the tables given above (age composition, social distribution); then, by means of warehousing and storage facilities, if necessary by destruction of surpluses, it should proceed to keep products off the market, and thereby finally the distribution of the world income would be made in a harmonious manner as between the two main groups, agriculture and industry, and in accordance with their activity. The organisation of the world agricultural output is none the less an immense problem, the large number of farmers being a factor making solution especially difficult.

The cure for or the alleviation of the agricultural crisis, now of so many years' standing, can only come about from the marketing or economic side. Technical agriculture has to direct its interest on the reduction of the relative parts of the consumption expenditure in the accountancy returns at present obtained. These relative savings must not however be secured by means of increased crops since if so there is once more over supply.

W. B.

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MARKETING OF AGRICULTURAL PRODUCE

The World Market in Tobacco (concluded): III. National Types of Tobacco Trading.

A brief historical study of the development of the consumption, and consequently of the cultivation of tobacco, has led to the conclusion that tobacco is a product greatly varying in quality and value according to the country where it is grown, the variety to which it belongs and the attention bestowed on it. A review naturally followed of the characteristic products which the principal exporting countries place on the world market.

The production of the United States of America calls for detailed study, as this production forms about one-fifth of the total production and the United States export more than one-third of the tobacco which is in world circulation. The development of the tobacco exports of this country constitute a remarkable phenomenon. The cultivation is localised and specialised and though there is a slight decrease in the production of cigar tobacco that of Virginia tobacco continues to increase. On the other hand as regards the Dutch Indies, San Domingo, Brazil and Cuba it is rather the quality than the quantity of the products which command attention. Special mention must be made of the Oriental tobaccos the brands of which are more limited and the variety greater. The countries which consume on the spot the greater part of their production, *viz.*, China, Russia, India, are much less interesting from our point of view. The countries like France, Italy and Hungary which are large producers and themselves consume the greater part of their production make no contribution to the world market.

The methods of ensuring distribution of the tobacco harvested or purchased may now be considered.

Governments, who according to all economists are always short of funds, have endeavoured to ensure an income by controlling the sale of this product. It is within the power of the Governments to fix the prices arbitrarily. There is nothing to fear from the caprices of fashion for the smoker does not easily change his habits, nor are the reproaches of the moralist to be feared. Tobacco is not a commodity of prime necessity, as it is not used to satisfy an essential need, but rather an artificial need similar, though in a less degree, to that of narcotics.

Governments can employ certain methods for exploiting this distribution; they may either not interfere with it, but may take certain dues at certain points in the circulation, or they may make the distribution exclusively themselves, this latter being the system of monopoly, or they may rent out to other persons the right of exploitation which is the contract system followed in Spain, Portugal and Sweden.

The United States, Germany, Great Britain have been taken as types of countries with unrestricted trading, and in the first instance attention was drawn to

the fiscal and commercial procedure followed in the *United States*, as being on better lines than elsewhere. The fiscal procedure is simpler, the commercial methods involve a better utilisation of capital and hence are more effective. The next step was to give an account of the methods of concentrating these capital sums. From the study of the balance sheets and of the profits of certain of these companies an idea may be gained of the scope of their transactions. (*International Review of Agriculture*, Nos. 11 and 12. XIX Year).

In *Germany*, the manufacture and trade in tobacco are unrestricted, while the State collects fixed duties on tobacco in leaf. These duties are low, thereby encouraging local manufacture. Package duties on manufactured products and high duties on products manufactured abroad bring in considerable revenue to the Reich. The cigar industry in particular is divided among a large number of small and medium sized workshops; the manufacture of cigarettes which is concentrated in the hands of certain large companies and cartels has developed with Dresden as centre and Bremen and Hamburg as markets of supply and distribution. From the point of view of utilisation of capital, of its concentration, of technical organisation and publicity the German industry is the equal of its American rival.

In *Great Britain* there is a similar system of customs duties intended to safeguard the home manufacture which is concentrated in certain powerful companies.

These companies are most prosperous but they have of late become anxious to draw on the Empire itself for the raw tobacco which has been coming from abroad and especially from the United States, and consequently have urged the imposition of preferential duties in favour of the tobacco which reaches them from India, Rhodesia, Cyprus and Canada in increasing quantities. The increase in the world consumption of products of the Virginian type ensures the British manufacturers a steady custom. The prevailing taste in this matter is shown by the continuous increase in the exports of Bright Flue Cured from the United States in the course of the last few years, as is shown in the following table :

1923	179,982,000 pounds
1924	265,515,000 »
1925	278,279,000 »
1926	287,334,000 »
1927	302,372,000 »
First ten months of 1928	306,238,000 »

Out of these quantities 102,000,000 pounds have been purchased by the British Empire. The financial activity and the exchange business resulting from the unrestricted trade in tobacco is thus clearly evidenced.

The monopoly system presents quite different features and may be studied in the case of *France*. It forms the subject of much controversy, but it may be agreed that if the system is not ideal the imperfections are not due to its essential structure.

Another reason for taking the French system as typical is that it was the earliest. From 1674 the State has controlled the sale of tobacco in France, and the organisation of the Tobacco Administration (*Regie des Tabacs*), on practically the same lines of its present working, dates from 1811, and bears the stamp of Napoleon's constructive genius, although the laws regulating it date from 1816. The cultivation and transformation of the products come under the supervision of the *Direction*

Générale des Manufactures des Tabacs, and the sale under the control of the *Direction générale des Contributions Indirectes*.

The cultivation of tobacco is very closely supervised. On the other hand the grower is sure of the sale of his crop and at prices sufficiently remunerative to make the permission to cultivate regarded as a favour by the departments of France to which it is accorded. It may be said of this crop, as of the sugar beet' crop, that it is one of great importance socially, as from the fact that it requires various manipulation processes, it gives employment to a number of persons and makes it possible to utilise the work of women and children to the maximum; this is especially true in the South-West and in the North of France, where tobacco-growing is most developed. In the North the cultivation is in the hands of small holders, in the South West it is carried out by share tenants.

There has been a considerable decline in tobacco cultivation in the North of France while the most marked advance has been made in the South-West in spite of the shortage of labour. The following table shows the areas under cultivation and the yields :

Years	Areas under cultivation (hectares)	Total yield (quintals)
Average 1909-13	16,411	243,114
1924	17,306	357,565
1925	16,324	314,379
1926	15,783	261,877
1927	16,661	287,488

and in particular for the South-West and for Alsace the areas under cultivation have been as follows in hectares :

	South-West	Alsace
1913	9,959	—
1924	11,761	2,691
1927	11,301	2,341

The advance made by the cultivation in the South-West of France well illustrates the utilisation of family labour in the countries of small and medium sized farms. Any reduction in this crop would involve the disadvantage of a reduction in the area under wheat cultivation. As a hoed crop it prepares the ground admirably for wheat, which also benefits by the fertilising and weeding necessary for tobacco cultivation. On the other hand it makes full use of the strong chemical manures, and in particular of potash salts, which have been added to the soil in view of other crops, and have not been completely utilised.

It has also a commercial interest, for if the cultivation were to disappear the monopoly would be subject to the requirements of foreign markets. The growers have formed the *Fédération des Planteurs de tabac* which plays a large part in the fixation of price limits and of purchasing commissions.

With a view to avoiding the necessity of paying at high rates in foreign currencies for fine tobaccos, France is now endeavouring to obtain from her colonies tobaccos which cannot be grown in the mother country. Contracts for Oriental tobacco have been concluded with the co-operative growers' societies in Algeria ; on 21 July 1925 the Government granted to the Cameroon Tobacco Company a

special concession for the cultivation of Java cigar tobacco. The Martin mission was sent to Madagascar, the Lagleyse to Indo-China. This is no doubt the beginning of a movement which is destined to expand without interference with the Javan or Cuban brands.

The monopoly purchases are thus distributed :

	1924	Value millions of francs	1925
Purchases in France	28,998 tons	119	24,430 tons
» in colonies	5,895 »	44	7,876 »
» abroad	26,665 »	197	30,000 »

The production in France itself, which is localised in the South-West (departments of Dordogne, Lot, Lot-et-Garonne), in Alsace and in the departments of Nord and of Pas-de-Calais, is stationary or nearly so, except in the South-West.

The monopoly is however far from finding in the French colonies all the qualities required for manufacture. These are very various as may be seen from the following table relating to 1925.

Foreign Tobaccos purchased by the French Monopoly.

(b) ORDINARY FOREIGN TOBACCOS.

Countries of origin	Varieties	Quantities bought. m. tons	Utilisation
United States . .	Light Kentucky	11,522,034	Superior, ordinary and troop Scaferlati.
	Seedleaf	334,325	Superior, ordinary and troop Scaferlati.
	Maryland	3,258,438	Maryland Scaferlati.
	Dark Virginia	100,449	Snuff tobacco.
	Strong Kentucky . . .	398,462	Pipe tobacco.
Philippines . . .	Manila (Union, Iloilo Pangassinan, Igorrote)	1,259,470	Superior and ordinary Scafer- lati.
Colombia	Carmen	43,060	
San Domingo . .	San Domingo	2,364,885	
Dutch Indies . .	Java Crossok	2,877,922	
	Vorstenlanden	951,129	
		23,119,174	

(b) SUPERIOR FOREIGN TOBACCOS.

Cuba	Havana	68,029	Manufacture of superior cigars
United States . .	Bright Virginia	99,245	Manufacture of " High Life " cigarettes, Virginia " Fa- shion " and scaferlati.
Orient	Bulgaria, Greece, Asia Minor	94,206	Oriental scaferlati and cigar- ette tobacco.
Java, Sumatra.		217,087	Cigar wrappers.
Bahia		3,087,135	Binders and fillers.
	Total of superior for- eign tobaccos. . . .	3,545,702	
	Total of ordinary for- eign tobaccos. . . .	23,119,174	
	General total	26,664,876	

It is very difficult to establish the profits which may be made by a monopoly, for in fixing prices although the costs of raw materials, wages and general expenses of manufacture are taken into account, there is no indication of the expenses on which private industry must count but which do not appear in public accounting such as interest on capital engaged, working capital, depreciation on buildings, and machinery, taxes on turnover.

The manufacture of tobacco is on the increase in France. In 1927 the figures were as follows :

Types	Quantities
Snuff tobaccos	3,096,200 kilogrammes
Chewing tobacco	1,042,600 "
Scaferlati	35,217,200 "
Cigars	341,800,000 (about)
Cigarillos	311,200,000 "
Cigarettes	11,145,981,000 "

Increase in consumption of cigarettes is shown by the increased sales. In 1913 cigarette sales were 8.6 per cent. in weight of the total quantity of manufactured tobacco. In 1927 the proportion was more than 22 per cent. For 1928 an increase in sales of 780,000,000 might be expected. Improvements have been made in stock, in storage accommodation and in distribution methods with a view to this development.

Exportation. — The French administration is not behind other manufacturers in its anxiety to swell its profits by exportation, and the practical importance of this step is proved by the stress laid on it by the *Commission des Finances* of the Chamber of Deputies.

Exports amounted to 236,409 kilogrammes in 1913 with a value of 2,837,931 in gold francs. When war broke out there was a stoppage of exports and they were not resumed till 1921. The two countries which had been the best customers of the French monopoly, Switzerland and Belgium, had meantime considerably raised duties on manufactured tobaccos with a view to protection of the home industry, while the import duties on tobacco in leaf remained the same. Hence it became necessary to introduce French tobacco in this form and to put it up into packets and cigarettes on the spot. In June 1924 a factory was installed at Vevey which supplies Switzerland with the products most in demand. The results obtained have been most satisfactory, and as a consequence of the success in Switzerland the French Tobacco Administration has since 1926 arranged for the manufacture of French grown tobacco in a factory in Brussels.

It may be mentioned that under similar conditions the Italian monopoly has set up a factory at Lugano, in the canton of Ticino.

New brands have come into existence in 1927, especially in cigarillos which were tending to go out of fashion.

The *Italian* monopoly differs only in a few points from the French, and it has been placed in that country also under the control of the Ministry of Finance. Quite remarkable results have been achieved. Foreign manufactured tobaccos are placed in store by the Administration at seller's risk and on his account ; in 1925 these sales amounted only to 96 tons of foreign tobacco as compared with 39,000 tons of tobacco of Italian manufacture.

The policy of the monopoly has been as follows : to develop as much as pos-

sible the production in Italy and her colonies the varieties which Italy formerly purchased abroad. The progress of this cultivation has been remarkable ; before the war Italy grew on an area of 8000 hectares 10,000 tons of coarse tobacco ; in 1922 the crop was 31,000 tons on 30,000 hectares ; in 1924 the yield from 38,000 hectares was 41,000 tons (and out of these 38,000 hectares 18,000 produced with success a tobacco closely resembling on all points Oriental tobacco) ; in 1926 the yield was 44,000 tons from 39,000 hectares, and in 1927 it was 39,000 tons.

The progress achieved has been largely owing to the work of the Scafati Institute which was founded in 1895, and is an institution on similar lines to that of Bergerac in France and Forchheim in Germany.

Exports developed at the same time and trade outlets abroad have been found for Italian manufactured tobacco, for example the markets of Argentina where the presence of numerous Italians of the working class affords a guarantee of custom for the monopoly products. In 1927 there was a new departure in the form of the share company *Azienda Tabacchi* in which the State holds 10,000,000 liras' worth of shares and private individuals shares to value of 5,000,000 liras. The object of this Company is to develop trading operations and the handling of tobacco within the limits authorised by the monopoly legislation.

The Austrian Monopoly. — The Austrian monopoly differs from those already discussed in that it no longer buys its raw material in the country. The provinces in which tobacco is grown have been detached from Austria and consequently the tobacco manufactured in factories of the Austrian Tobacco Administration is always foreign tobacco. The monopoly is however prosperous and in particular has developed its export trade. The flavour and the method of presentation of Austrian luxury cigarettes, especially those made from Oriental tobacco, make them very generally appreciated.

This monopoly which dates from 1784 was formerly absolute, with a preferential tariff for dealings with the Hungarian monopoly when this latter was formed in 1850. The receipts have been used as guarantee for the annual reparations payments, and the Government cannot touch them without the consent of the Commissary general for Reparations. The rates of sale under the monopoly cannot be altered without the consent of this officer, and they must be so arranged that the income of the monopoly is equivalent to 66 per cent. of the receipts.

The newer states of Central Europe, Czecho-Slovakia, Poland, Yugo-Slavia, have also adopted the monopoly system which had been already introduced by the Austrian or Hungarian Tobacco Administration into certain of their provinces.

Other countries have adopted the middle course of renting to a company the monopoly of the tobacco trade.

In *Spain*, for example, there used to be a State monopoly, but in 1887, as the results were not satisfactory, the Government rented it to a company, *Compañia Arrendataria de Tabacos*, with a share capital of 60,000,000 pesetas. The concession has been renewed several times and is valid up to 1941.

This company pays to the State a progressive rate on the profits, replacing the fixed sum which it formerly paid. On a profit of 140,000,000, the Company keeps 5 per cent., on a profit of from 140 to 160 millions, 10 per cent., and if above 160 millions, 5 per cent. From 1900 to 1918 the State profits varied from 130 to 160 million pesetas. During the financial year 1923-24 they amounted to 246,400,000 pesetas ; and during the year 1924-25 to 257,500,000 pesetas. In the course of the year 1 July 1924 to 30 June 1925 there has been a manufacture of 21,488 tons of tobacco in cigars, cigarettes and tobacco. Spain buys nearly all its tobacco abroad, now that the Government in order to encourage the colonies has prohibited cultiva-

tion in Spain itself. As an experiment, however, this prohibition was relaxed by a decree in 1919, and again in 1925 for a period of ten years (1925-1935).

In *Portugal* a similar solution has been reached. The monopoly did not prove sufficiently remunerative while in State hands and it was rented out for the first time in 1891 to a private company, the "*Companhia dos Tabacos*" which had the privilege of the sale of tobacco in Portugal and the Colonies for 35 years, with power to cancel or extend at the end of the sixteenth year. The renewal took place in 1907 but with a raising of the progressive annual payment. This payment which previously amounted to 4500 contos at a maximum was raised in consequence to 6520 contos.

On 4 August 1924 the State share in the profits was still further increased : in addition to the annual charge the Company was to make an additional contribution to the State of 15,000 contos, plus 20 per cent. on the sales in 1924-25 and 21 per cent. in 1925-26. In return the Company was authorised to advance its prices by 50 per cent.

The special feature in the exploitation of tobaccos in Portugal is the increase in the State demands on the Company which rents the monopoly. The Company was dissolved in 1926 after experiencing a number of reverses chiefly due to exchange difficulties. The position was that the raw material had to be paid for in foreign gold currencies (dollars or florins) and accordingly the Company had to sell its products, at a time when the scudo was worth only about one-thirty-fifth of a dollar, at five times the 1914 price. When liquidated the Company was selling its products at 13 times the pre-war price while other products were selling at 25 to 40 times. The concession came to an end on 30 April 1926 and as no decision had been made as to the system which should be adopted, whether an administration, a joint administration, a private monopoly or unrestricted manufacture, the Government 15 months later imposed a contract by the terms of which tenders were invited for the material and the use of the State marks from companies with minimum capital of 1000 gold contos and for a maximum period of thirty years.

The tender of the *Companhia Portuguesa de Tabacos*, a company which had grown out of the earlier one, was accepted. The Government was overturned, and the last established Government decided for unrestricted trading, but with enforcement of manufacturing permits. The future of the company seems likely to be prosperous, apart from the risks incurred by the former company to which this new contracting party is already well used by the very fact of its origin.

In *Sweden* a similar system has been in working since June 1915, but a special feature of much interest may be noted, namely, that the State is itself the chief shareholder in the limited company *Svenska Tabaks Monopolet*.

The company carries on operations with a capital of 46 million crowns, 29 million belonging to the Crown, 12 million to the Pensions Fund and five million to shareholders.

The profits have been as follows :

	Profits in crowns
1915	4,400,000
1916	22,161,000
1917	29,874,000
1918	39,733,000
1919	59,995,000
1920	64,655,000

	Profits in crowns
1921	61,331,000
1922	60,271,000
1923	63,365,000
1924	66,060,000
1925	63,882,000

As in Spain the charge on the profits is progressive. In 1924 and early in 1925, in consequence of good business management, prices of products dropped considerably, by 13 per cent. for cigars and by 4 per cent. for cigarettes. In spite of this, dividends rose to 10 per cent. for preference shares and 40 per cent. for State shares. In 1926 the import duty on tobacco was increased. Imports, however, fell off as well as consumption except for pipe tobacco.

The concession of the monopoly expires in 1930. It has been already once renewed in 1925. The results of its working are encouraging.

It should be added that this company "Svenska Tabak Monopolet" does not possess the exclusive privilege of the sale of tobacco, but takes its profit by selling to the retailer a special licence for the sale of foreign tobaccos, and in fact a rivalry exists in Sweden between this company and foreign firms which is very much to the interest of the consumers. German and Dutch cigars, English and German cigarettes come in, in large quantities, while the United States remain the chief source of supply of raw tobacco to the company which buys the dark Kentucky and Virginia brands. The total purchases in the United States are equivalent to more than half of the total purchases made abroad.

From the point of view of the consumer this system of sale is unquestionably among the best as it combines the advantages of unrestricted trading and a monopoly without the drawbacks of the latter. It has now to be seen whether it is also to the advantage of the grower.

However costly the manufacture the monopoly keeps honourably to its prices, expenses connected with sales are low and advertising expenses practically nil up to the last few years.

Where, as in Belgium, trading is unrestricted, the manufacturer is obliged to allow the dealer 20 to 25 per cent. of the selling price, while in France the retail dealer receives a commission not exceeding 5 to 6 per cent. Some of the principal advantages of the monopoly consist in the certainty of the assured sale of the tobacco grown by the home grower.

It may be of interest to reproduce, by way of conclusion, the following table which has been drawn up by M. Courtet, chief engineer of the *Manufactures des Tabacs de l'Etat Français*. The names of countries with a State monopoly are printed in italics, the countries with a rented monopoly in ordinary type, and the countries with unrestricted trading in small capitals: the figures refer to the year 1926.

It has not been possible to establish the precise figures for Great Britain and the United States.

It is clear from the above that both from the point of view of prices paid by the consumer and from the percentage of receipts falling to the State, the comparison is on the whole to the advantage of the monopoly, the aim of a sound commercial organisation being to supply goods at the lowest possible cost. Tobacco has been a subject of careful attention on the part of all governments who have endeavoured to draw the maximum profit from its exploitation, knowing that they will not thereby

Consumption per head (in gold francs)		Average price paid per kilo by consumer		Percentage of State receipts on the proceeds of the sales	
f. c.		f. c.		f. c.	
GREAT BRITAIN	89.29	Italy	32.40	Spain	75
DENMARK	56.45	DENMARK	28.40	France	73
HOLLAND	52.74	GERMANY	28.35	Italy	73
GERMANY	39.88	Sweden	22.25	Tunisia	70
Austria	35.21	Austria	21.20	Rumania	67
Sweden	29.29	HOLLAND	20.40	Poland	66
Czechoslovakia	22.87	Yugo-Slavia	16.30	Austria	64
Italy	22.08	Czechoslovakia	14.74	Czechoslovakia	61
Spain	16.35	France	14.20	Hungary	59
Yugo-Slavia	13.37	Poland	14.10	Turkey	56
France	13.35	Spain	12.50	Sweden	49
Poland	12.80	Turkey	10.79	GERMANY	46
Hungary	11.97	Hungary	10.15	GREAT BRITAIN	32
BELGIUM	10.08	Tunisia	10.06	ALGERIA	29
Poland	7.86	ALGERIA	8.80	DENMARK	26
Tunisia	7.34	Rumania	7.08	BELGIUM	24
ALGERIA	7.08	BELGIUM	4.80	HOLLAND	12
Rumania	6.25				
Turkey					

incur the reproach of increasing the cost of living as tobacco is not considered as a commodity of prime necessity. Although they do not attain the importance of those famous corn laws which ensured to a Roman citizen the wheat necessary to his existence, the laws which regulate the distribution of tobacco are in all countries the subject of discussion and controversy ; artificial needs exercise everywhere a tyranny equivalent to that of the primary needs.

H. M.

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CROS, Georges: L'exploitation fiscale des tabacs, *Revue Internationale des Tabacs*, No. 2, Paris, February 1926.

ALLIX, EDGAR: Le monopole des tabacs. *Revue politique et parlementaire*, No. 406. Paris, 10^e September 1928.

Total Exports of Raw Tobacco in 1928 Estimated as Largest in Several Years. *The United States Daily*, No. 239. Washington (U. S. A.), Wednesday, December 12, 1928.

Basis for the Installation of a General System of Elevators in the Argentine Republic.

The importance of storage and marketable quality of the cereal crops for their proper valorisation on the world market has been fully recognised by the Ministry of Agriculture in Argentina. It is also felt that the establishment of grain elevators, although the obvious solution, in itself raises problems affecting a large number of interests in the Republic. The Ministry accordingly decided to appoint a Commission with a view to the collection and analysis of information on the subject. After several months of zealous work, devoted entirely to the economic welfare of Argentina, the Commission has presented a comprehensive report to the Ministry of Agriculture in which the various phases of the scheme are dealt with.

In advance of the appearance of this report, the law on cereals No. 3,491 was passed, replacing the law No. 3,908 passed in 1896. It was under this earlier law that the privately owned elevators now existing in the Republic were established. The present report, under above title, constitutes an admirable survey of the problem and entirely alters the position.

It treats the scheme as one of national interest, the idea being to supply the country with a network of elevators making possible complete circulation of the cereals from the place of production to the port of embarkation. At the same time,

by means of a well conceived scheme of credit, it establishes adjustment between buyer and seller, giving currency in Argentina to the warrant guaranteed in advance for negotiation by a strict grading of the product.

It was the express desire of the Commission that its work should meet impartially the needs of the nation, and accordingly consultations formed a leading feature, while opinion was obtained by means of a detailed questionnaire which was sent to traders and producers. The opinions expressed as the result of this enquiry were in agreement, except on one point, as regards the method of stating the fundamental element in the problem. In comparing the systems of movement of cereals, in bulk or in bags, the opinion given was provisional and accepted by the Commission pending a detailed study of the advantages of the system recommended.

The general movement of grain in Argentina is calculated on the average as 14,700,000 tons: of this total the following quantities are handled in bags: 90 per cent. of the linseed on account of its susceptibility to atmospheric conditions, 13 per cent. of other cereals for export where there are no elevators to receive it in the importing country, and 50 per cent. of the grain intended for home consumption. Making these deductions, there may be calculated in round numbers 10,000,000 tons of grain which is annually moved in bulk.

The primary advantage of the system is that it does away with the need for bags: the bags required for moving 10,000,000 tons, including cost of material and making, involve an expenditure of \$ 26,500,000 (national money). Even although by changing the system the whole sum is not saved, since bulk handling also involves expenditure, the national economy benefits from the fact that this sum does not leave the country. Otherwise a present is made to other nations which rarely in their turn buy a single Argentine product.

By bulk handling the labour requirements are considerably reduced as compared with the bagging system, with consequent saving of time and money. The elevators offer much improved storage conditions and the better warehousing will have its effect in better grain prices. Promptitude in loading when handling begins and in discharging at the end of the operation will economise time and labour, effecting further saving, *e. g.*, on transport, which taken together represent more economic advantages. Bulk handling also eliminates the considerable wastage due to holes in the bags and other causes. With bagging the grain suffers from the effects of damp, heating, etc., representing a heavy expense which disappears under bulk handling owing to the exceptional storage facilities of the elevator.

Taking into consideration all the factors enumerated and making an inside estimate as regards both systems of handling, the Commission has arrived at the conclusion that the handling of 100 kilos of grain in bags costs \$ 0.73 and bulk handling of the same quantity costs \$ 43 (national money). The latter system thus entails a saving of 0.30 dollars for each 100 kilos which on a trade reckoned at 10 million tons represents a profit of 30 million dollars so soon as the system of bulk handling functions as a whole.

The above are not the only advantages of the elevator system; bulk handling entails commercial facilities beyond powers of calculation and only the future will make their full value clear. At the present time three fourths of the grain harvested passes into the hands of the speculator as the necessary liquidation of the farmer's account with him: the bulk handling will provide the grower with the means to protect his resources and to secure benefit from them, since he will be able to obtain 80 per cent. of the value of his grain at a reasonable interest at the interregional elevator. He will then discharge his legal obligations and will wait to sell his grain at the price and the time which suits him best. The sale on the

foreign markets of this clean grain carefully graded by the elevators will result in profit to the grower, the trader and the manufacturer of Argentina.

The Commission has discussed the organisation of elevators and with a view to avoiding calculations and trials has made enquiry into what has been already achieved and has noted the development of the system in those countries in which it is already in working. The United States of America, the Dominion of Canada, the Union of South Africa, India, Russia, the Argentine Republic itself in respect of elevators already existing, have been the object of enquiry on the part of the Commission which sets out in its report the advantages and drawbacks of the organisation and working adopted respectively in each one of these countries.

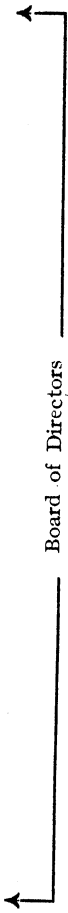
The questionnaire submitted by the Commission related to administration by the State directly, by contractors, by private persons, by co-operative societies, and finally by an official self-governing body in some respects resembling the body administering the Public Health Service. The greater number of the opinions proved to be against administration by the State regarding it as unsatisfactory and burdensome ; on the other hand the opinion has been against working through contractors on account of the risk to the grower involved by private working. Although viewed more favourably by some it is not the most suitable system for the country, and the earlier experiments based on the law, No. 3908, have demonstrated its ineffectiveness and its break down in practice. The farmers' associations are of opinion that the solution of the problem is to be found in the co-operative elevator constructed with Government assistance. It is certain that this system of working has given remarkable results in some countries, witness the Wheat Pools of Western Canada in the provinces of Alberta, Saskatchewan and Manitoba. In the Argentine Republic, this system is neither practicable nor advantageous ; the Commission does not however oppose it, although of opinion that whereas the working of elevators should be conducted on the lines of a public service it would not be possible for a co-operative organisation to observe this principle in the case of non-member growers. As it is felt that for reasons peculiar to Argentina this system does not solve the fundamental problem of agriculture, the Commission has pronounced itself against the working by co-operative societies of elevators built by the State. After giving due weight to all advice offered and having thoroughly considered the advantages and disadvantages of each of the systems of working enumerated, it has decided that the system should be a State system. It should be of public utility ; and for realisation of the project in view of the economic and agricultural conditions of the country, the ideal would be the formation of a self-governing body which would have all the advantages and none of the drawbacks of the different systems reviewed. In this way an organisation would be formed which would link the various interests into an integral whole.

With this view, the Commission proposes the creation of the National Department of Public Granaries (*Departamento Nacional de Graneros Públicos*), an organisation of which the diagram here reproduced gives a complete idea.

The administration of this organisation will rest with a Board of Directors with head-quarters at the Federal Capital. Under its direction are : the *Technical Division* which is responsible for everything relating to construction and upkeep ; the *General Inspectorate*, divided into three sections : grading, inspection and control of exports ; the *Administrative Division* subdivided in its turn into five sections : staff, statistics and customs, transport, certificates and credit ; *Accountancy and Legal Business*. The appointment of the President will be made by the Government, and the public interest will be taken into account in making the selection ;

Argentine Government

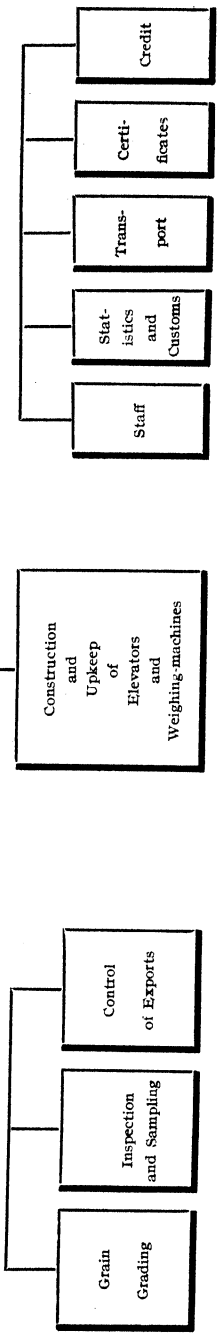
Ministry of Finance Ministry of Agriculture Ministry of Public Works



National Department of Public Granaries

Administration

General Inspectorate Legal Business Technical Division Accountancy Administrative Division



apart from this obligation, the remainder will be elected from among groups of three candidates, all persons specialised and expert in the work of each section. Around the presidential board there will compete for the same seat the labourer who tills the ground, the small holder (*chacareño*) and the farmer, the triad who form the first link in the chain of agriculture : then the intermediaries who collect the grain, those who mill it or handle the flour, and the exporters ; then the transport firms which are closely linked with the scheme, and the banks, which must be represented in connection with the activities connected with credit and the warrant, an institution likely to be widely used. Finally the State as supreme exponent of the public interest presides over the work of the organisation as a whole.

The " Departamento Nacional de Graneros Públicos " will be self-governing: at the same time in its financial relations with the Government, the Ministry of Finance will act. The budget of the Department will be submitted to the approval of the Government. It will draw up the grain grading regulations, and export of grain from Argentina which does not present the required characteristics will not be permitted by the Government: this prohibition will tend to inspire confidence in the official grading certificates and to obviate the tendency to mix grains of inferior quality.

The Commission calculates that one thousand country elevators will be needed of differing capacity, in the proportion of 1000 tons for each five thousand grown. The cost will amount to \$ 100,000,000 national money. The terminal elevators to be constructed will have accommodation for 900,000 tons. Adding this storage space to that of the elevators already in existence, a required total of 1,320,000 tons will be reached. The total cost represents 80,000,000 gold dollars, a sum to be obtained by an issue of bonds in series not representing more than 15,000,000 gold dollars.

This work of such outstanding importance for Argentine economy should be completed by a comprehensive credit scheme. Once the public granary is in existence in close connection with the selling markets this credit scheme becomes possible in the form of certificates of deposit. The proposed law makes these warrants transferable property on endorsement after entry in the corresponding register, and no new legislation is necessary for this credit mechanism, which is based on the issue of warrants as provided fully by the laws Nos. 9643 and 9644. Instead the Commission creates, what will be the object of separate legislation, a banking scheme which will make it possible to meet the immense credit development representing the value of the cereal production, estimated annually at one thousand million pesos (national money). It will be a true *Credito Agrícola* of well marked type, bringing in capital so that the grower as he produces more will not find himself continually obliged to realise the certificate which he holds from the elevator, before the due date.

The work of this Commission is completed by a detailed study of the progress of the grain from farm to market. It would be satisfactory to see realised this scheme for providing the country with a network of installations which would make possible the rapid circulation of the harvested crops under good conditions and would ensure to Argentine agriculture its full development and the increase of its economic resources.

E. M. de B.

Report presented to the Minister of Agriculture Don Emilio Mihura by Dr. LE-GUIZANÓN, Guillermo L. ; VIDELA D. Ricardo ; Dr. CULACIATI, Miguel J. ; Ingeniero INIESTA, Humberto M. and Ingeniero BORO, Alejandro.

AGRICULTURAL LEGISLATION

Principles common to Recent Enactments on Agricultural Credit.

Legislation on the subject of agricultural credit varies considerably as between one country and another. It varies not only according to the development of agriculture, the economic situation and the social condition of the different agricultural classes, but also according to the particular legal system in force. These differences concern various aspects; in particular, the determination of the persons and institutions who grant credits (direct grant by the State; grants by public institutions, and grants by private bodies under State control or by specially constituted organs); next the conditions on which grants of agricultural credit are made; lastly the nature of these borrowing operations and the various categories into which they are divided (loans for upkeep or land improvement; ordinary loans; loans on the basis of notes of exchange; loans on the basis of real securities). Careful examination and analysis and a comparison of the rules introduced by the most recent laws on agricultural credit will shew that in spite of the very sensible differences between these measures and the profound diversity in the structure and organization of agricultural credit established by the various enactments there exists, between at least many of them, a common tendency in the matter of loans for upkeep. This tendency, which, especially in some countries, is the result of experiments and tentatives extending over a number of years, may be defined as the substitution for ordinary loans on personal security of loans on a real security constituted by the farm stock and products. This security is, however, fashioned in such a way as to allow the borrower to retain possession and consequently enjoyment of the objects constituting this security. The question immediately arises: what are the reasons which have led to the constitution in the matter of agriculture of a form of security which as a rule is not encountered in credit operations concluded in the spheres of trade and industry? The strengthening of the security by the constitution of this real pledge is explained by the fact that agricultural credit operations present as regards the lending party, two drawbacks; these are the longer term of agricultural as opposed to commercial loans and secondly the lower rate of interest payable by the former class. In order to compensate these disadvantages, laws on agricultural credit demand in the case of agricultural credit loans real securities which give an absolute guarantee for repayment. This greater security counterbalances the lower rate of interest and the longer term of the loan. This real security must be established in such a way as to avoid upsetting the working of the farm, which would result if dead or live stock or agricultural products were removed from the farm to a public or private place of deposit. With this object the legislator introduces into agricultural credit laws a special form of real guarantee which while subjecting the object forming the pledge to all the burdens of the real charge for ensuring the proper working of the loan operations makes it possible for the object itself to be possessed and utilized by the farmer; the latter is however subject to heavy and severe sanctions in the event of his alienating without the consent of the creditor the object forming the pledge, before fulfilling his obligations.

As regards the form of this security the various laws differ according to the juridical tradition of the particular country; in other words, while there exists a principle common to the grant of real security in agricultural credit operations, the specific instruments employed in furnishing this security vary as between the separate countries. For example, Ecuador, following the lead of other South American countries has adopted the system of the agricultural pledge, *i.e.*, pledge without dispossession of the object forming the pledge; Italy has preferred to adopt the system of lien

(statutory or contractual) ; Great Britain and Northern Ireland have adopted the real charge under the double form of simple charge and floating charge. The agricultural pledge as envisaged in the Ecuador enactment is interesting inasmuch as it marks a profound innovation in the traditional system derived from the principles of Roman law on the subject of pledge. According to traditional doctrine, the pledge contract cannot be pleaded in case of claims by third parties unless the debtor at the moment of constituting the pledge fails to deliver the object given in pledge to the creditor or to a third person chosen by agreement between the parties. It is obvious that this rule, if observed, would paralyse the working of agricultural undertakings by depriving them of their material resources and consequently of the use of means necessary for their working, such as livestock or agricultural machines and tools. It was therefore necessary to establish in the case of agriculture a new principle of an exceptional character constituting a departure from the traditional rules in the matter of pledge. This exception had already been allowed in certain other countries. Ecuador has followed the same system in its law of 22 December 1927. It is of course necessary for the validity of the pledge to substitute for the deed of dispossession another public deed ensuring the pledge a character of certitude and avoiding grounds of litigation and fraud. This has been effected by the registration of the pledge in a special register described as "*Agricultural Pledges Register*" and kept by the Mortgage Registrar. The Ecuador law expressly stipulates (art. 5) that the agricultural pledge has no effect as between the parties and cannot be pleaded as against third parties unless properly entered on the Register. Agricultural pledges can (art. 4) be constituted over the following objects:— (1) animals and animal products; (2) products of all kinds whether harvested or standing ; (3) forest products or products of agricultural industries ; (4) agricultural machines and tools. The objects pledged cannot be removed from the farm without the permission of the creditor. Exception is made in the case of animals, carts, machines etc. which can be temporarily removed, according to custom for the purposes of their use in the work of the undertaking (art. 15). Debtors who remove or have removed illegally objects over which a pledge has been constituted or who voluntarily cause them to disappear or suffer damage, are liable to imprisonment for terms ranging from two to five years.

Italy has been unwilling to modify the traditional principles in the matter of pledge even by measures having a temporary character. In this connection it is interesting to notice that as early as 1884 it had been proposed in Italy to introduce in agricultural credit operations the security of pledge over chattels and farm products without dispossession. This proposal is to be found in a bill presented to the Chamber of Deputies in its sitting of 7 May 1884 by a group of deputies including Sig. Pavesi and Sig. Luzzatti. In the report accompanying the bill, attention was drawn to the advisability in the interests of agriculture of taking a bold step forward and declaring valid the pledge of moveables belonging to agricultural enterprises at the same time leaving them in the hands of the debtor. This proposal was not adopted on account of the difficulty of modifying traditional principles on the matter of pledge. The legislator however was able to achieve the same object by a suitable adaptation of the institution of the lien. Liens are allowed in Italian law under two forms - statutory and contractual. In consequence agricultural credit operations are by law guaranteed by a lien which, in the case of the chattel intended as a security for the loan (the farm products in the case of crop loans, and livestock or machines, in loans for the acquisition of these latter) grants to the lending institution a right of priority in the object as against all other creditors. A Decree-Law of 1928, amending a Decree-Law of 1927, has softened the rigour of the real nature of this lien in the

matter of crops etc.; according to the 1927 Decree the pledge might, in the case of a poor harvest, be extended to crops harvested during later seasons even if the farm had in the meantime changed hands. According to the new Decree, the extension of the lien over products of the succeeding harvests is only allowed when the farm is cultivated by the actual person in receipt of the loan. As regards livestock and machinery, the statutory lien imposes on the debtor the obligation, the breach of which is punishable by serious sanctions, not to alienate it without the consent of the creditor; in the case of non-observance of this provision the enactment also extends the lien to the thing even as against the purchaser who, in consequence, remains bound as regards the creditor, at least for a certain period fixed at a maximum of sixty days from the date of purchase. The contractual lien is a subsidiary form of security by which the agriculturist can strengthen the statutory lien. If the loan has been granted for purposes of cultivating the farm and is consequently secured by the statutory lien on the products, the farmer may in order to secure still further the loan in question grant a contractual lien over his livestock so that the Institute has a real claim not only over the products but also over the livestock. The contractual pledge is in fact an agricultural pledge without taking of possession and is governed as such. It must be constituted by written deed which must be duly registered on a special register deposited with the Mortgage Registrar.

The British enactment of 3 August 1928 is of particular interest. This law admits a real charge in the form of fixed and floating charges in credit operations for upkeep. This charge was unknown to previous English laws on agricultural credit. According to these laws the farmer could only offer to credit institutes from which he wished to borrow money a personal security or real security when he was the owner of the farm in question. According to the new Law on the contrary the farmer is able to offer as a security for loans a charge over the farming stock and other agricultural assets belonging to him. This charge can be constituted without removing the object forming the pledge from the farm to which it is attached. The guarantee is modelled on the English "real charge" under the double form of fixed charge and floating charge; the first charge is a charge over all or any specified part of the farming stock or other agricultural assets: in the second case the guarantee is constituted generally over the farming stock and other agricultural assets from time to time belonging to the farmer or such part thereof as is mentioned in the charge. In the first case there is a direct charge over the property forming the object of the charge and the creditor may in consequence claim that all the sums received by the debtor shall be used to satisfy his claims; in the second case on the other hand, we have a charge over a collection of objects; this charge may however be converted into a fixed charge in certain determined circumstances such as the insolvency of the farmer. In any case the debtor is under the same obligation as that derived from a fixed charge, namely the destination for the extinction of the debt of the sums he may realize by the alienation of the property forming the object of the charge. These charges must be registered and the law lays down heavy penalties for removal from the holding of any property subject to a charge.

G. C.

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Ecuador. Law on Agricultural Pledge Contracts. 22 December 1927 (Registro Oficial No. 524, 23 December 1927); *Great Britain and Northern Ireland.* Agricultural Credits Act, 1928. 3 August 1928. (18 & 19 Geo. 5. Ch. 43); *Italy.* Decree-Law No. 2085 modifying the Decree-Law of 29 July 1927, No. 1509, on the organization of Agricultural Credit. 29 July 1928 (Gazzetta Ufficiale, 22 September 1928, No. 221).

Summary of the New Laws and Regulations.

SAORSTÁT ÉIREANN. Slaughtered Animals (Compensation) Act, 1928. Number 12 of 1928 (17 July 1928).

This Act provides for the appointment by the National Executive of the Irish Livestock Trade of a Board of six Trustees, holding office for 10 years, who shall maintain and manage a Slaughtered Animals (Compensation) Fund to be formed of dues paid by exporters of animals to Great Britain. The owners of any animals so exported and slaughtered by order of the British authorities shall receive compensation out of this Fund. Claims for such compensation are investigated by assessors appointed under this Act and the sum fixed by them as compensation shall be paid by the Board of Trustees to the claimant.

* * * Agricultural Credit Act, 1928. Number 22 of 1928 (30 July 1928).

The Act provides that where land has been mortgaged to the Agricultural Credit Corporation Limited for a sum not exceeding four hundred pounds, the Corporations charge is given priority over all charges not mentioned at the date of registration, in the Register maintained under the Act of 1891.

* * * The Foreign Animals (Irish Free State) Order of 1928. Statutory Rules and Orders, 1928. No. 62. (3 September 1928).

This Order makes it unlawful to bring into any port in the Irish Free State any animal brought from a port in any country other than those mentioned in the schedule to the Order. Animals which although shipped from a port in one of these countries has entered a port in a country not mentioned in the schedule are also excluded. In the event of such entry being forced under stress of weather the Order lays down precise instructions as to dealing with any animals on board.

SOUTH AUSTRALIA. An Act to regulate the Dairy Industry and for purposes incidental thereto or consequent thereon. No. 1878 (7 November 1928).

All persons using or occupying any dairy farm, factory or creamery must be in possession of a license, which may be cancelled or suspended if any such exploitation is not suitable or is not in a fit sanitary condition for the use to which it is put. No licence will be granted to a margarine factory which is within 100 yards of a butter factory. The Act provides for the temporary prohibition of the sale of milk obtained from diseased cows and for their branding. Wide powers are given to the proper inspectors to supervise dairy farms and factories and to take samples of their products or of the fodder supplied to their livestock.

ITALY. R. Decreto n. 2874 portante disposizioni per la disciplina e lo sviluppo delle migrazioni interne. 28 Novembre 1928. *Gazzetta Ufficiale*, n° 302 (25 dicembre 1928).

This Decree provides for the foundation of a Permanent Home Migrations Committee for the study and promotion of measures necessary for facilitating, either by temporary utilization or by settlement schemes the migratory flux from over-populated provinces towards provinces where production might be increased. The State gives financial aid by contributing to the workers' travelling and housing expenses as well as to settlement boards able to employ at least five families coming from over-populated zones.

U. S. S. R. Order respecting the payment of milling costs in kind. 14 September 1928. *Sobranie Zakonoff i Rasporadjenii* No. 61, sec. 555 (15 October 1928).

By this Order, the People's Commissioners Soviet of the U. S. S. R. with the object of ensuring food supplies for poor peasants and of re-inforcing the Government cereal

stocks, make it compulsory for all mills to demand payment in kind for milling cereals ("garnety" dues).

Cereals received in this way must be ceded at prices fixed in advance by contract, to Government and co-operative organizations designated by the local organs of the U. S. S. R. People's Trade Commissioners, to be used for supplying local needs and in particular those of poor peasants.

The amount of the "garnety" dues and the mode of collection and utilization shall be fixed by the local organs of the U. S. S. R. People's Commissioners in accordance with instructions issued by the People's Commissariat for the Home and Foreign Commerce of the U. S. S. R. The Order however prescribes that its amount must be fixed in such a way that it is not too high for the small wind mills nor so low as to provoke a current of trade to small mills at the expense of big ones.

FRANCE. Loi portant autorisation d'engagement de crédits pour l'électrification des campagnes. 12 décembre 1928. *Journal Officiel*, n. 294 (13 décembre 1928).

The amount of the subsidies which the Ministry of Agriculture has been authorized to allocate during 1928 for the electrification of country districts is raised in virtue of this law from 180 to 230 million francs.

MEXICO. Reglamento de la Ley de Estadística de 20 de diciembre del 1922, reformada por decreto de 6 de junio de 1928. 30 de agosto de 1928. *Diario Oficial*, n. 9 (12 de septiembre de 1928).

The first chapter of these Regulations deals with the functions, powers and organization of the Department of National Statistics.

The Social Statistics Office is to organise the population census, social statistics, statistics of the movement of population, etc. The Economic Statistics Office is to draw up censuses and statistics of agriculture stockbreeding and industry statistics on communications, home and foreign trade, finance and in general all statistics mainly economic in character.

Art. 11 of the Regulations establishes that, simultaneously with the world agricultural census, there shall take place a national agricultural and stockbreeding census, on the basis of the general principles laid down by the International Institute of Agriculture and adapted to the special conditions obtaining in Mexico. The date and organisation of this census is to be the subject of a special decree of the executive authorities.

Chap. III deals with the organization and working of the National Statistical Council. Chap. IV deals with the public bureaux which may be used as sources of statistical information such as the "Cadastre", the Civil Register, etc., and disposes that they shall regularly furnish data to the statistical department. Chap. V lays down the obligation imposed on private individuals to furnish the statistical data required of them. Chap. VI deals with offences and fines and Chap. VII contains measures of a general character.

Bills.

BELGIQUE. — Révision des articles du Code Civil relatifs au bail à ferme. *Documents Parlementaires*. Annexe N° 168.

The Chamber of Deputies of Belgium recently approved of a bill making certain modifications in the Civil Code on the subject of leaseholds. These measures complete and modify art. 1742 of the Code defining the judicial relations between the lessor and the lessee and grants the legal successors of the tenant the right to terminate the lease provided they do so within a year of the death of the tenant. The bill also modifies articles 1748, 1766 and 1766b regarding the right of landlords to give notice to

quit, regarding the penal clauses and the clauses restricting the tenant's freedom in the matter of cultivation of the land, of its working, etc.

The bill further contains amendments of articles 1774, 1775, 1776 and 1778 referring to the length of leases and the different agreements made on this subject; amendments are also made in the provisions of the code regarding the lessor's right to retain on payment of compensation the crops sown and works made without his written permission or else to prohibit their removal by the tenant.

UNITED STATES OF AMERICA (*Federation*). — A Bill to establish a Federal Farm Board to aid in the orderly marketing and in the control and disposition of the surplus of agricultural commodities in interstate and foreign commerce. Dec. 4, 1928 *United States Daily* (5 Dec. 1928).

The objects of this Bill are stated to be (1) "to minimize price fluctuations by promoting the orderly marketing of agricultural commodities in the current of interstate and foreign commerce by providing for the control and handling of any surplus in such marketing and encouraging producers to organize effective associations under their own control for greater unity of effort in such marketing"; (2) to "bring about a substantial and permanent improvement in agriculture".

These objects are to be achieved by the creation of a Federal Farm Board, to consist of the Secretary of Agriculture and six members appointed by the President. The Board is to "keep advised... of crop prices, prospects, supply and demand, at home and abroad with especial attention to the existence or the probability of the existence of a surplus or shortage of any agricultural commodity" and to advise producers in connection with the "adjustment of production, distribution and marketing of any such commodity". The Board is also empowered to give certification as a stabilization corporation for a particular agricultural commodity to any corporations it considers suitable. Before granting such certification the Board must organize an advisory council for the commodity. Such councils may also "co-operate with the Board in advising the producers... in the development of suitable programs of planting or breeding".

The Bill would provide for loans to the total value of \$300,000,000 to stabilization corporations, and to co-operative societies for the "purchase or construction of physical market facilities", for making loans to their members on account of market price of commodities handled by them, for expenses of extending membership and for advances to the insurance fund.

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KNIBBS, Sir GEORGE HANDLEY. The shadow of the world's future or the earth's population possibilities and the consequences of the present rate of increase of the earth's inhabitants. London, Ernest Benn Limited. 1928, 131p. tab. 22,5cm.

[The approach to the population problem, while primarily statistical, is also economic and sociological, and it is on these lines that it is treated here by Sir George Knibbs. At the present much accelerated rate of increase of the world's population — approximately 0.65 per cent. per annum — the prospect of doubling the 1,950 millions estimated for 1928 in about 105 years and of quadrupling in about 210 years is one recognised as practically assured. Basing his calculations on certain essential factors, such as the extension and productivity (actual and practicable) of the earth's arable surface, the unit of cereal consumption per individual, etc., Sir George Knibbs reckons that — given continuance of existing conditions — the limit is only twice the present world population, and that only with increase of the agricultural area and considerable advance in science and technology can the quadruple figure be safely reached. The population problem is however, not merely a mathematico-physical one; there are involved questions of standard of living, social efficiency, reduction of luxury and waste, tolerance of migration and even of miscegenation, with inevitable changes in national ideals. Indeed if the limit of

7800 millions is to be passed without disaster certain changes in the fundamental elements of man's character may have to come about, with "the virtual elimination of all forms of unscrupulous egoism" from the relations of human groups. The whole enquiry is a valuable contribution to internationalism, and it is of interest that a striking tribute is paid by the author to the work of the International Institute of Agriculture which he says "has made the world-situation in respect of agriculture clearer, so that it is now possible for it to be studied intelligently".

BRIDGES, A. and DIXEY, R. N. Sugar beet in France, Belgium, Holland and Germany. Oxford, at the Clarendon Press. Milford — 1928, 118 p. ill., tab. Price 4s. 6d.

[In addition to valuable information on the technical aspects of sugar beet cultivation, the authors during their visits in 1926-27 to the countries mentioned were able to collect from authoritative sources data of costs (except for France). They note that the crop makes heavy labour demands, and therefore requires either peasant proprietor cultivation or cheap casual labour or increased and progressive use of machinery. Considerable stress is laid on the high value of the residual or by-products as reducing costs. Transport charges and methods of unloading, etc., at the factory receive full attention, while the chapter on price fixing emphasises the advantages of district agreements and of growers' ownership or at least participation in the factories.

With the collaboration of other workers at the Agricultural Economics Research Institute, Oxford, Mr. Bridges has published in three successive years monographs on sugarbeet growing, costs and returns in England and Wales (See bibliographical note, *International Review of Agriculture*, November 1928, p. 1004). and it is accordingly of much interest that he states in the work under review that, while no continental practice in relation to the growing of the crop "should be adopted in England, except after careful trial of British conditions of soil, climate, and above all labour", on the other hand "on the marketing side the machinery whereby the Continental grower is assured of obtaining the right price is more adequate" and consequently repays careful study in other countries].

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[The author has collected in this volume a series of lectures delivered at the School of Business of Columbia University. He reviews the characteristics of the international trade in products of prime necessity: wheat, cotton, wool, silk, coal, petrol, sugar, coffee, wood, etc. The enquiry is of a practical nature and is based upon the most reliable statistics and data collected on the spot from the best sources of information].

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INTERNATIONAL REVIEW OF AGRICULTURE

PART II

MONTHLY BULLETIN

OF

AGRICULTURAL ECONOMICS AND SOCIOLOGY

INTERNATIONAL AGRICULTURAL ECONOMY

World Production and Trade in Rice.

In the general report on cereal cultivation presented by Prof. Brizi to the XIIIth International Congress of Agriculture held at Rome in 1927 it is stated that the world production of rice *possibly* amounts to 1,300,000,000 quintals. The aggregate figure cannot be stated precisely as there is no registration of statistics in the case of several countries including China. One authority calculates the world production at 1,600,000,000 quintals.

The following figures may be given of the area cultivated in rice and of the production for the years 1913-27, the data being however incomplete in respect of the Asiatic countries:

TABLE I. — *Area and Production.*

Years	Area		Production	
	millions of hectares	Index	millions of quintals	Index
1913-14	48.2	100	774.5	100
1921-22	53.0	110	856.7	110
1922-23	54.0	114	895.1	115
1923-24	52.6	111	798.7	102
1924-25	54.4	116	853.7	110
1925-26	55.0	117	853.6	110
1926-27	54.2	116	845.5	109

These figures may be compared with those of the production of wheat, which in 1925-26 was 1,059,200,000 quintals.

The technicians and economists who have made a special study of the subject of rice from the world economic point of view state that this question, in common with the general question of cereals, forms part of the whole problem of foodstuffs and scarcity, and therefore is to be included in the examination of the means of meeting the world food crisis.

It should be noted that the importance of rice in Europe does not consist solely in its direct consumption as food. A considerable part of the production is employed as raw material in certain industries; but in whatever way this cereal is prepared or transformed whether for human food or for industrial purposes, there are always residues which are of value for feeding or fattening stock. Hence those countries which import and use in industry large quantities of rice tend to accum-

ulate large quantities of stock feeds which become transformed into meat, milk, or fertilising material. For example, Germany, a non rice producing country, was before the war much ahead of other European nations where rice is grown, and imported and exported this cereal on a large scale using it as an element in a large number of industries.

Generally speaking the technicians and students of public health questions recognise in the first instance that the preparation of foreign rice is an important source of wealth for Europe, and that on this account the importation of Indian and Asiatic rice would promote the solution of the food crisis, besides stimulating labour and trade, but they maintain further that it would be of great advantage to extend rice-growing in Europe. The arguments are: that rice forms in Asia the staple food of the whole populations; that its world production is already by far the most widely diffused all the cereals, and could moreover be considerably further extended, by making use of marsh lands or lands capable of a high degree of irrigation; that contrary to the opinion formerly held, the rice crop, if carried on by improved methods, far from encouraging malaria is a crop that tends to improve swampy and unhealthy lands which have been on this account left waste and uninhabited; that rice, even where as a branch of farming the production is in excess of the demand, is always a safe and remunerative export commodity. Certain legal authorities add that the legislation restricting rice growing in certain countries is no longer in harmony with the progress of scientific knowledge about malaria, nor with the principles of political economy, and that unwise restrictions due to antiquated beliefs and long standing opinions must give way to measures calculated to promote the cultivation of rice and to encourage trade in rice, if this crop can really make fertile lands either lying waste or only partly cultivated, and can thus promote the development of home colonisation.

It may be remarked, moreover, that agricultural civilisation in S. E. Asia is based primarily on this cultivation, and in comparison with wheat growing the following characteristics are to be observed. Where rice is grown, the crop rotations are more rapid and more intensive. As rice growing develops, it absorbs a larger quantity of labour. The labour in fact accounts for half the cost of cultivation, but the economic advantage of this inevitably diminishes, since the cost of irrigation and fertilising increases, and thus arises the necessity of introducing into the rotation, or substituting, other more remunerative crops, so as to keep the worker employed, and to attach him to the farm and the land. Thus as a result of the formation of rice fields in swampy and deserted localities, in the long run there is effected co-ordination of productive farming, more scientific distribution of the land among the various types of cultivation, the most appropriate crop rotation, and the most satisfactory line of progress for the rural population and for the rise of rural industries. On the other hand it is to be also noted: that the varieties of rice grown intensively tend to deteriorate, and it is important to introduce exotic varieties and at the same time so to direct the selection as to restore or improve the original characteristics. Research workers on the spot direct the choice of varieties suitable for export and acclimatisation, and it is essential to maintain for the purpose permanent mutual understandings between the producing countries so as to facilitate periodical importation from the place of origin of the selected varieties and to ensure the supply. Hence, by means of research, periodical and systematic importation and acclimatisation of approved varieties new opportunities offer for the development of trade between distant countries and for the formation of links of interdependence and solidarity between rice growing countries, while it becomes possible to check unfair competition.

As a rule in proportion as the area devoted to wheat cultivation is extended in a given geographical region, statistics show that there is a reduction in unit yield per hectare. Speaking generally, that is to say, a country with a fairly considerable population has a small percentage of lands so fertile and so particularly adapted to wheat as to give the maximum yields.

In Japan the general position of the problem of rice cultivation is in fact the problem of associating another food crop with rice.

During the war it was recognised in Japan that it was essential to secure independence as to the food supply (1) and attempts were made to induce the population to adopt some substitute for rice. It was realised that to maintain the feeding of the nation on the rice basis, it would be necessary, as the population increased, to extend the crop to arable land already used for other crops and less suitable for rice, a policy neither advantageous, nor practicable. If on the other hand it were possible to reduce the national consumption of rice and to combine it with that of another cereal, the problem of supplies and of the national independent food supply of Japan would be capable of solution even in view of an increase in the population and the increase in rice consumption.

It may be noted that the value of the rice production alone in Japan is equal to 60 per cent. of the total value of the agricultural production of foodstuffs, and that while there is a small export of rice there is a considerable importation on the part of the Japanese colonies. The food situation of the country thus essentially depends on the rice supply. The deficiency in the Japanese production of rice as compared with the total consumption, has gone on increasing from 1893 onwards, in spite of the extension of rice growing on improved lands and the augmentation of the average yield of the rice fields. The difference is met by imports.

It may be added that in Japan the consumption of rice has always been higher than the production; hence the position is the exact opposite of that of Italy and other European countries which are producers and exporters of rice. Japanese consumption is increasing by two-thirds in proportion to the increase in the population and by one-third in respect of the average consumption per inhabitant. The index of the consumption per inhabitant has risen from 100 in 1888-92 to 149 in 1913-17, while in the same period the index number of the population has risen from 100 to 135.

Correspondingly the price of rice has risen from 12.54 *yen* (2) per *koku* (3) in 1909 to 57 *yen* in 1919, and in consequence the Government since 1920 has made proposals for meeting the future deficit, by crop improvement, by increasing the importation from Corea and Formosa, by giving up to rice cultivation waste lands which are wet or irrigable, or by encouraging the adoption of some food substitute.

The Japanese Government, in order to control the price, exempts the rice import from payment of duties when the national crop is below a certain level and encourages importation, itself leading the way, whereas in the event of a good crop the duty is raised and right of private importation restricted, in spite of the protest naturally made by the consumers.

It is the opinion of agricultural experts that the best method of bringing waste land under cultivation, provided it is irrigable, is to place it under rice, as no other crop gives from the first year onwards such a yield as rice. Accordingly the experts are asking that special statistical and economic world enquiries may be made into

(1) *International Review of Agricultural Economics*. Rome, August 1920.

(2) $Yen = 2 \text{ s. } 0 \frac{37}{64} \text{ d.}$

(3) *Koku*. measure of capacity = 39.68 gallons.

the whole subject. They demand also the passing of legislation in favour of this branch of production and trade, and of land reclamation, as well as the adoption of general measures for adjusting the equilibrium of world food production. A programme relating to the collection and elaboration of the Far East data is also confidently looked for, as facilitating systematic and sustained enquiry into distribution of rice crops, cultivation costs, return from capital and course of prices. In this way the bodies directing the agricultural policy of the different States will be in a position to follow the world economy of the production of this most widely diffused of the cereals.

Such a development of international research and enquiries on rice is a subject of special interest at the present time, since the European rice-growing countries are undergoing a crisis of prices in this branch of their national production.

The crisis depends on the fact that the production cost increases and that the home price in these countries is less than the production: accordingly the home price is closely connected with that of the world market, and in regard to this product the effect of the protective duty is small. The consequence is that some of these European countries, as for example Italy which leads in Europe with a production of rice of 6,900,000 quintals, Spain with a production of 3,200,000 quintals, Bulgaria with 170,000 quintals, Portugal with 175,000 quintals, and other European countries with a lower production, are obliged to make immense competitive efforts among themselves so as meet, though not very effectively, the Asiatic, African, and American competition.

The world situation may be regarded as follows:

TABLE II. — *Area cultivated in Rice throughout the World (1).*

Continents	Years 1909-1913 (1909-1910 1913-1914)	Years 1923 (1923-24)	Years 1924 (1924-25)	Years 1925 (1925-26)	Years 1926 (1926-27)
	Hectares	Hectares	Hectares	Hectares	Hectares
NORTHERN HEMISPHERE.					
Europe	195,000	181,000	201,001	210,000	219,000
America	405,000	446,000	442,000	464,000	526,000
Asia	43,030,000	46,792,000	48,090,000	48,769,000	47,800,000
Africa	639,000	938,000	1,132,000	1,144,000	1,141,000
Total for the Northern Hemisphere . . .	44,875,000	48,357,000	29,865,000	50,557,000	49,686,000
SOUTHERN HEMISPHERE.					
America	84,000	404,000	603,000	598,000	598,000
Asia	2,809,000	3,382,000	3,311,000	3,395,000	3,395,000
Africa	399,000	532,000	534,000	535,000	571,000
Oceania	4,000	4,000	4,000	5,000	5,000
Total for the Southern Hemisphere . . .	3,296,000	4,322,000	4,452,000	4,533,000	4,569,000
General Total . . .	48,171,000	52,679,000	54,317,000	55,090,000	54,255,000

Europe produces in the aggregate about 10,500,000 quintals: accordingly this European production, as compared with the world production, does not reach 0.8 per cent. On the other hand, Asia which is the great continent of production yields 95.2 per cent. of the world production. Africa contributes 2.4 per cent., America 1.6 per cent. Europe is thus the continent with the smallest production.

As is shown by graph No. 1 the world production from 1909-1913 to 1926 has undergone a certain variation. Up to 1924 it steadily increased from year to year reaching in that year the figure of 856,636,000 quintals, it then fell in 1925 to 853,647,000 quintals and in 1926 to 845,587,000 quintals. Asia forms the great

(1) Taking into account that these figures do not include data for China and for other countries where it is impossible to obtain statistics, it may be estimated that the world production of rice varies round about 1,200 to 1,300 million quintals: a figure nearly equal to that representing the production of wheat.

TABLE III. — *Production of Rice in the World. (I).*

Continents	Years 1909-1913 (1909-1910 1913-1914)	Years 1923 (1923-24)	Years 1924 (1924-25)	Years 1925 (1925-26)	Years 1926 (1926-27)
NORTHERN HEMISPHERE.	Quintals	Quintals	Quintals	Quintals	Quintals
Europe	6,911,000	7,930,000	9,169,000	9,776,000	10,297,000
America	6,346,000	7,969,000	8,161,000	8,302,000	10,168,000
Asia	699,416,000	700,532,000	756,680,000	751,515,000	723,729,000
Africa	9,964,000	11,657,000	14,313,000	13,285,000	15,025,000
Total for the Northern Hemisphere	722,637,000	728,088,000	788,313,000	782,878,000	779,217,000
SOUTHERN HEMISPHERE.					
America	1,447,000	8,692,000	8,329,000	7,844,000	7,844,000
Asia	43,078,090	51,456,000	48,881,000	52,401,000	52,401,000
Africa	6,009,000	10,450,000	11,052,000	10,464,000	6,065,000
Oceania	172,000	77,000	61,000	60,000	60,000
Total for the Southern Hemisphere	51,906,000	70,675,000	68,323,000	70,768,000	66,370,000
General Total	774,543,000	798,763,000	856,636,000	853,647,000	845,587,000

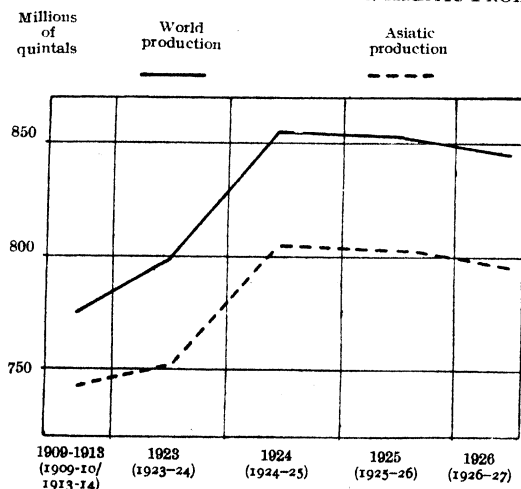
centre of production, with more than 95.2 per cent., of the world production and a maximum in 1924 of 805,541,000 quintals.

It is well known that rice is the food basis of the whole Asiatic world. Seven hundred million persons living between Tokio and Colombo, taking Shangai, Canton, Saigon, Batavia, Bangkok and Calcutta on the way, make their daily meal of rice almost exclusively.

The increase of the production in 1924 may be due to the fact that the year was favourable to rice cultivation in all rice growing countries, to reasons of economic supply policy of the Oriental countries and their inter-Asiatic trade in rice, and to increases in the production of food stuffs.

As shown above the area cultivated in rice in Asia reaches very high figures,

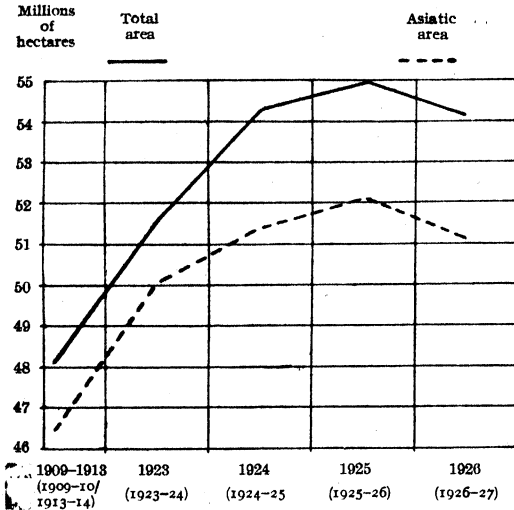
COMPARISON BETWEEN THE WORLD PRODUCTION OF RICE
AND THE ASIATIC PRODUCTION.



Production of Rice.

Years	General Total	Asiatic pro- duction	%	Other coun- tries	%
	1000 quintals	1000 quintals		1000 quintals	
1909/13 . .	774,543	743,094	95.9	31,449	4.1
1923 . .	798,763	752,078	94.1	46,685	5.9
1924 . .	856,636	805,541	94.4	51,095	5.6
1925 . .	853,647	808,916	94.2	49,731	5.8
1926 . .	845,587	796,150	94.1	49,437	5.9

COMPARISON BETWEEN THE TOTAL AREA AND THE ASIATIC AREA UNDER RICE CULTIVATION.



Area cultivated in rice.

Years	Total area	Area in Asia	%	Other countries	%
	1000 hect.	1000 hect.		1000 hect.	
1909-13 (1909-10-1913-14)	48,171	46,445	96.4	1,726	3.6
1923 (1923-24)	52,079	50,174	95.2	2,505	4.8
1924 (1924-25)	54,317	51,401	94.6	2,916	5.4
1925 (1925-26)	55,090	52,164	94.6	2,926	5.4
1926 (1926-27)	54,255	51,195	94.4	3,060	5.6

in comparison with the other countries as is seen in the graph No. 2. The maximum area was reached in 1909-13 when the percentage was 96.4, while in 1925 it was as high as 94.6 on the total.

In 1925 the total area under rice cultivation showed small increases as compared with 1924; but the climatic conditions were not wholly favourable in certain As-

TABLE IV. — *World Trade in Rice (I).*

Continents	Average 1909-13	1923	1924	1925	1926
	Quintals	Quintals	Quintals	Quintals	Quintals
IMPORTATION					
Europe	12,547,000	9,356,000	10,824,000	12,967,000	10,641,000
America Northern and Central	2,801,000	3,771,000	3,729,000	3,558,000	3,687,000
America South	1,374,000	1,238,000	1,682,000	2,451,000	1,667,000
Asia	23,240,000	38,937,000	38,820,000	39,835,000	44,756,000
Africa	2,782,000	2,536,000	2,074,000	2,936,000	2,582,000
Oceania	492,000	550,000	619,000	501,000	518,000
Totals	43,236,000	56,888,000	57,748,000	62,248,000	63,851,000
Index	100	130	133	144	147
EXPORTATION					
Europe	699,000	1,525,000	2,482,000	2,878,000	3,505,000
America Northern and Central	602,000	2,237,000	1,581,000	876,000	1,231,000
America South	45,000	349,000	74,000	90,000	61,000
Asia	44,138,000	50,046,000	52,119,000	56,649,000	59,525,000
Africa	47,000	616,000	934,000	458,000	353,000
Oceania	10,000	—	—	—	—
Total	45,571,000	54,818,000	57,250,000	60,951,000	64,575,000
Index	100	120	126	134	143

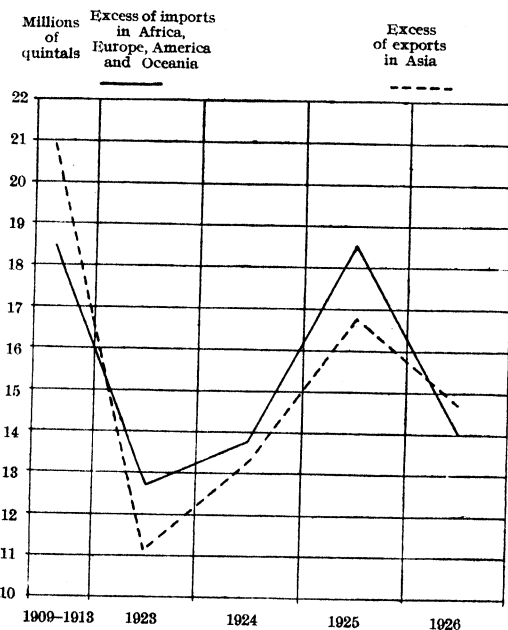
(1) The totals include all countries, excepting Liberia, Portuguese Guinea and Uganda.

iatric producing countries, *e. g.*, India, Indo-China, the Philippines. These slight declines in yield, observed in these countries, have occasioned a reduction in the average yield in the whole of the Asiatic production, in spite of the satisfactory results of the crops of other producing countries.

The following table shows the world trade in rice. Graph No. 3 shows the excess of the rice imports in Africa, Europe, North America, Central and South America and Oceania, and the excess of exports in Asia.

It is to be noted that while the excess of imports of the other continents amounts in 1909-13 to the figure of 18,563,000 quintals and in 1923 to 12,676,000, in 1924 to 13,797,000, in 1925 to 18,061,000 and in 1926 to 14,085,000 quintals, the excess of exports from Asia amounts in 1909-13 to 20,898,000 quintals, in 1923 to 11,109,000, in 1924 to 16,814,000 and in 1926 to 14,769,000 quintals.

COMPARISON BETWEEN THE EXCESS OF RICE IMPORTS OVER EXPORTS IN AFRICA, EUROPE, AMERICA (NORTH, CENTRAL AND SOUTH) AND OCEANIA, AND THE EXCESS OF EXPORT OVER IMPORT IN ASIA.



It must be remembered that China with its enormous production has a closed market: that Japan imports from its own possession Corea over 5,000,000 quintals of rice: that Siam alone exports about 12,000,000, and Indo-China about 10,000,000 quintals, that Madagascar with a production of 10,000,000 quintals exported 417,000 quintals in 1925 and 219,000 in 1926; while on the other hand the Dutch Indies import from 5 to 6 million quintals, although the island of Java has a production of 52,000,000 quintals of rice.

This world situation does not easily admit of modification, simply because the European peoples who are meat and wheat eaters cannot adapt themselves to a

combination of rice with their daily food. Consequently although it forms the basic food of more than half the earth's population, rice cannot easily command wider markets. While in Japan the annual consumption per inhabitant is over 150 kilogrammes, and in Siam and the island of Formosa it exceeds 120 kilogrammes, in Italy which leads in this respect among the producing countries of Europe, the consumption does not exceed 7 kilogrammes per inhabitant, as compared with 180 of wheat.

The question of the tastes of the consumers is however balanced by that of prices which also calls for serious consideration.

From 1900 to 1926 the price of cleaned rice in Italy was much higher than that of wheat. The 1900 to 1914 averages exceed those of wheat by 22 per cent. (31.37 liras as compared with 25.75); the war period price averages are 23 per cent. higher than those of wheat (63.70 liras as compared with 51.86); those of the period 1920-25 are 48 per cent. higher (183.21 liras as compared with 123.31). In 1926 the ratio of the higher price fell to 9 per cent.; and in 1927 it fell lower, almost to par; the consequence is that the rice growers are now afraid of the situation becoming reversed; a contingency against which they cannot safeguard themselves as it is extremely difficult to ensure an increase in the home consumption of rice and equally difficult to reduce the production costs of rice which are considerably higher than those of wheat.

The problem thus is for the European rice growers to find an export market; rice may become a partial substitute for imported wheat, but it cannot hold its own against the competition of wheat which is a product greatly preferred by the consumer.

The following point is also worth noting. On the London market the price of cleaned rice in 1926 was 9.4 per cent. lower than in 1925 and in 1927 it was 22.7 per cent. lower. On the Italian market it was 20 per cent. lower in 1926 than in 1925, and in 1927 it was 37 per cent. lower. The decline on the European growers' market is thus much more pronounced than that on the British markets which are merely import markets. Hence we are led to the conclusion that extra-European types of rice have undergone less decline in value than has been the case with the European growths.

As regards cost of production the following facts should be noted.

In Italy precise calculations on the unit production costs have been made by two eminent students of the subject, Dr. Salvatore Pugliese and Ing. Adriano Tournon. The result may be stated thus: on a cultivation unit of 230 hectares of rice land the average yield was 57.73 quintals per hectare, the cost of each quintal of the reaped rice was 103.63 liras. And as the best Italian rice sells today at 78 liras per quintal at highest, for the agricultural year 1926-27 the Italian loss varies from 25 to 30 liras the quintal. Special monetary causes may however be responsible.

Spain is suffering from a similar situation; and in order to protect its rice production it has been arranged to grant a premium of 3 pesetas per quintal to be applied when the price of rice is lower than 48 pesetas per quintal.

Accordingly the European countries not prepared to adopt a system of export premiums must try to increase consumption by means of special measures, *e. g.*, using rice in bread-making, difficult because consumers object; or must reduce the area under cultivation, equally difficult as causing agricultural unemployment. It is enough to consider, in regard to this second point, the case of Italy where the cost of cultivating meadowland is reckoned at 726 liras per hectare including 316 liras for labour, while the cultivation costs of rice are 3,991 liras of which nearly 1,920 repre-

sents labour whereas in the cultivation of wheat the labour is represented by 1,040 liras. The meaning of this is that the cultivation of rice absorbs 93 per cent. more labour than that of wheat and nearly 500 per cent. more than meadowland cultivation. In other words: the question becomes a social question with a view to the prevention of unemployment of a specialised form of labour; and resolves itself into a question of food and supply policy.

Further comment is not out of place as regards Italy, since conditions there are typical and may represent in general the European position.

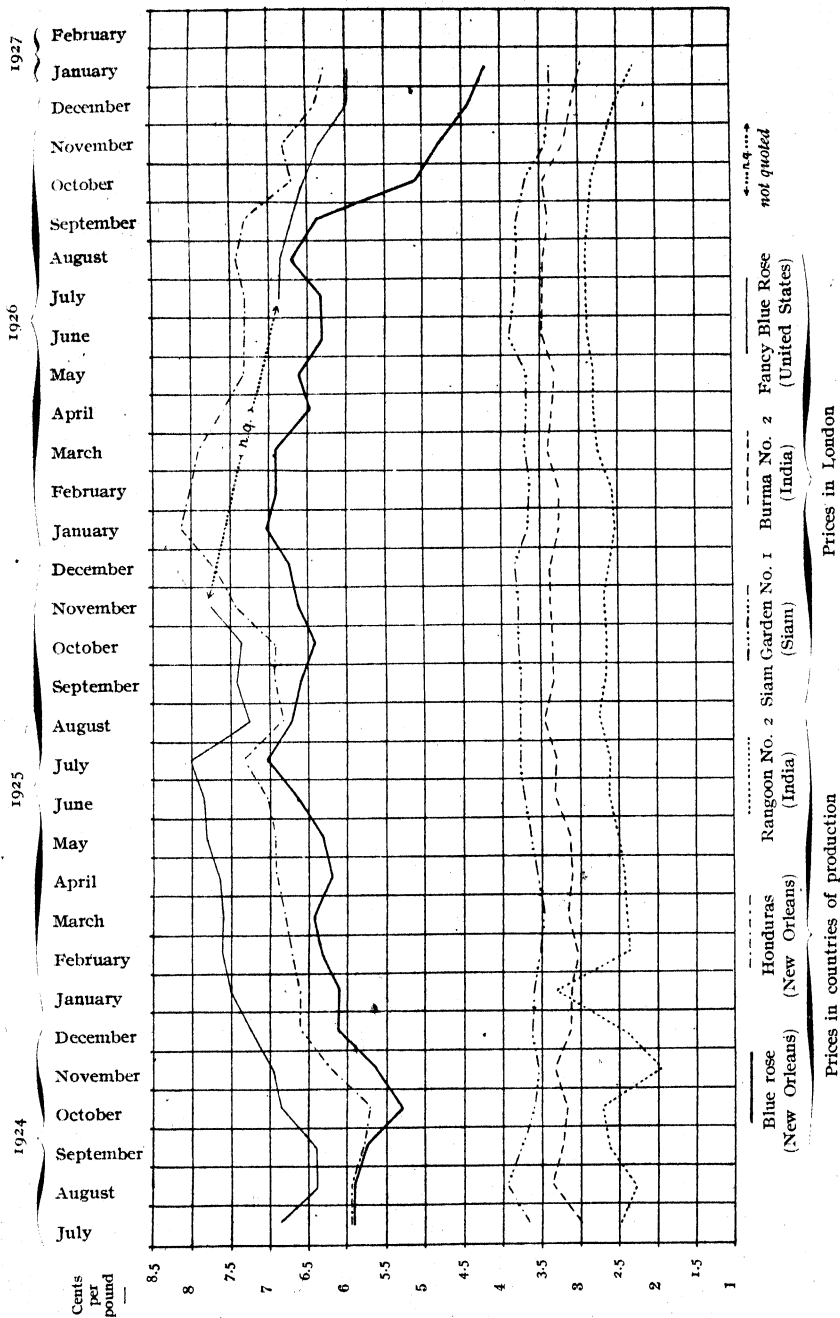
The Italian rice crisis is undoubtedly in connection with the marked and rapid decline in the prices of the chief agricultural products; but the fall in the price of rice which for certain regions of Northern Italy constitute the most important present day agricultural problem, has been enormous: since the price of cleaned rice fell from 213.12, liras the average quotation of the first half of 1926, to 152.85 liras in the first half of 1927 and to 118.49 liras in the third quarter; and rough rice fell correspondingly from 145.04 liras to 106.06 liras and to 78.97 liras and finally at the end of 1927 to 70.83 liras per quintal.

In Italy the principal problem is the maintenance of the level reached by Italian production which was 6,800,000 quintals of rough rice in 1926; taking into account the average of cleaned rice calculated at 4,200,000 quintals; of the home

TABLE V. — *Prices of Rice on the Principal Markets (in cents per lb.).*
July 1924 to February 1927.

	Prices in country of production				Prices in London			
	India Rangoon No. 2	Indo China No. 1 Round White	New Orleans		India Burma No. 2	Indo China Saigon No. 1	Siam Siam Gar- den No. 1	American Fancy Blue Rose
	Cents	Cents	Blue Rose	Honduras	Cents	Cents	Cents	Cents
1924-25.								
July	2.40	2.32	5.9	5.9	2.99	3.14	3.65	6.89
August	2.26	2.30	5.9	5.9	3.35	3.30	3.94	6.38
September	2.62	2.39	5.8	5.8	3.23	3.31	3.74	6.43
October	2.70	2.31	5.3	5.7	3.16	3.26	3.61	6.85
November	1.99	2.31	5.6	6.2	3.30	3.43	3.54	6.96
December	2.45	2.21	6.1	6.6	3.13	3.17	3.60	7.23
January	3.30	2.03	6.1	6.6	3.09	2.98	3.57	7.50
February	2.35	2.01	6.3	6.7	3.03	3.01	3.49	7.60
March	2.38	2.05	6.4	6.8	3.13	2.97	3.46	7.61
April	2.41	2.19	6.2	6.9	3.11	3.14	3.53	7.65
May	2.49	2.24	6.3	6.9	3.12	3.24	3.62	7.78
June	2.60	2.25	6.6	7.0	3.30	3.27	3.71	7.85
1925-26.								
July	2.60	2.21	7.0	7.3	3.30	3.19	3.74	8.01
August	2.72	2.34	6.7	6.8	3.13	2.88	3.75	7.26
September	2.67	2.21	6.6	6.9	3.34	3.26	3.74	7.41
October	2.64	2.31	6.4	6.9	3.33	3.29	3.78	7.36
November	2.67	2.40	6.6	7.4	3.36	3.30	3.79	7.75
December	2.60	2.43	6.7	7.7	3.35	3.50	3.83	—
January	2.53	2.35	7.0	8.1	3.26	3.19	3.66	—
February	2.57	2.21	6.9	8.0	3.25	3.12	3.62	—
March	2.74	2.39	6.9	7.9	3.36	3.15	3.70	—
April	2.78	2.38	6.5	7.6	3.32	3.32	3.69	—
May	2.80	2.37	6.6	7.3	3.29	3.25	3.69	—
June	2.86	2.42	6.3	7.3	3.46	3.34	3.88	—
1926-27.								
July	2.88	2.45	6.3	7.3	3.47	3.37	3.84	6.84
August	2.89	2.54	6.7	7.4	3.47	3.38	3.82	6.84
September	2.86	2.53	6.4	7.3	3.40	3.39	3.80	6.73
October	2.84	2.78	5.1	6.7	3.45	3.43	3.69	6.56
November	2.67	2.78	4.8	6.8	3.18	3.09	3.44	6.33
December	2.54	2.63	4.4	6.4	3.09	3.00	3.36	5.97
January	2.29	2.38	4.2	6.3	3.00	3.02	3.36	6.02
February	—	—	4.3	6.3	—	—	—	—

PRICE OF RICE ON THE PRINCIPAL MARKETS.



consumption calculated at 2,800,000 quintals; and of the remaining 1,400,000 quintals of cleaned rice available for export. Italian rice must maintain on the world markets the competition with the Asiatic kinds, which are of lower intrinsic value but of considerably lower price owing to low cost of labour or to fortunate climatic conditions; with the Spanish rices, which are of similar quality and are similar in price; with the American rices which cost less than the European, because in both North and South America the price of land is lower, as well as taxes and irrigation costs; and moreover the cultivation costs are lower, in so far as rice cultivation can frequently be carried out by intensive methods making use of the reserves of fertility stored in the soil.

To pass from the European crisis in rice-growing to the consideration of the world situation, nearly 52,000,000 hectares are under rice and in the agricultural year 1925-26 the production has exceeded 800,000,000 quintals of rough rice. Africa comes next with 1,632,000 hectares under rice cultivation and a production of more than 23,400,000 quintals; then America with about 1,040,000 hectares and production in excess of 16,000,000 quintals. In Europe only 204,000 hectares were under rice in 1927 and the production was about 10,000,000 quintals. Australia comes last, and has recently begun to cultivate about 4,000 hectares, with a production of 58,000 quintals. Among the great continents Europe has the smallest figures of area and production, but it stands first in unit yield per hectare.

The maximum European yield was 47.2 quintals per hectare, reached in 1925-26, while the American rice lands hardly reached 15.7 quintals, the African 15.6, the Asiatic 15 and the Australian 15.5 per hectare.

The following is a table of the prices of rice on the principal markets. Graph IV shows the fluctuation in the periods under review. E. F.

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The following article outlines a special aspect of the world rice market.

D. F.

The Rice Problem in the Pacific Countries.

The question to be dealt with in this article is one of special interest at present on account of the coming Fourth Pacific Science Congress which will be held at Bandoeng (Java) from 16 to 25 May 1929. It relates to the production and consumption of rice in the Pacific countries. The problem of the food supply in rice of these countries has undoubtedly become of the greatest interest in the course of the last few years and particularly in regard to questions of production and trade. This article may serve as in some sort an introduction to further and more exhaustive investigation.

The countries and colonies forming the subject of our enquiry are the following:

1. In *America*: the United States of America, Guatemala, Costa Rica, San Salvador, Panama, Honduras, Nicaragua, Columbia, Ecuador, Peru and Chile.

2. In *Asia* (1): Kwang Tung, China, Hong-Kong, Macao, Corea, Formosa, the Philippines, Japan, Brunei, Sarawak, the Dutch Indies.

3. In *Oceania*: New Guinea, Papua, Queensland, New South Wales, Fiji, Hawaii, Guam, Marianne Islands, Marshall Islands, the Caroline Islands, New Hebrides, New Caledonia, Samoa, British Oceania and the French Establishments in Oceania.

There are many gaps in our information as to the production, consumption and trade in rice in these countries. Precise information exists only for the countries shown on the following tables. It is impossible to give figures in reference to Honduras, New Hebrides, Samoa, the Caroline and Marshall Islands, New Guinea, Marianne Islands and Guam. Such figures would however have but little importance, as in these countries there are in all only 1,200,000 inhabitants and they are not large rice consumers.

Rice in the Asiatic countries. — In these countries rice is a food of prime necessity and consequently indispensable. This is shown from the fact that the average consumption per day and per person is 375 grammes for China, 470 grammes for Japan, 275 grammes for the Dutch Indies. In the following table the high production of these countries is shown. Unfortunately for want of precise documentation this table cannot be made to include all the Asiatic countries situated on the Pacific.

(1) Siam and Indo-China are not counted as countries situated on the Pacific Ocean.

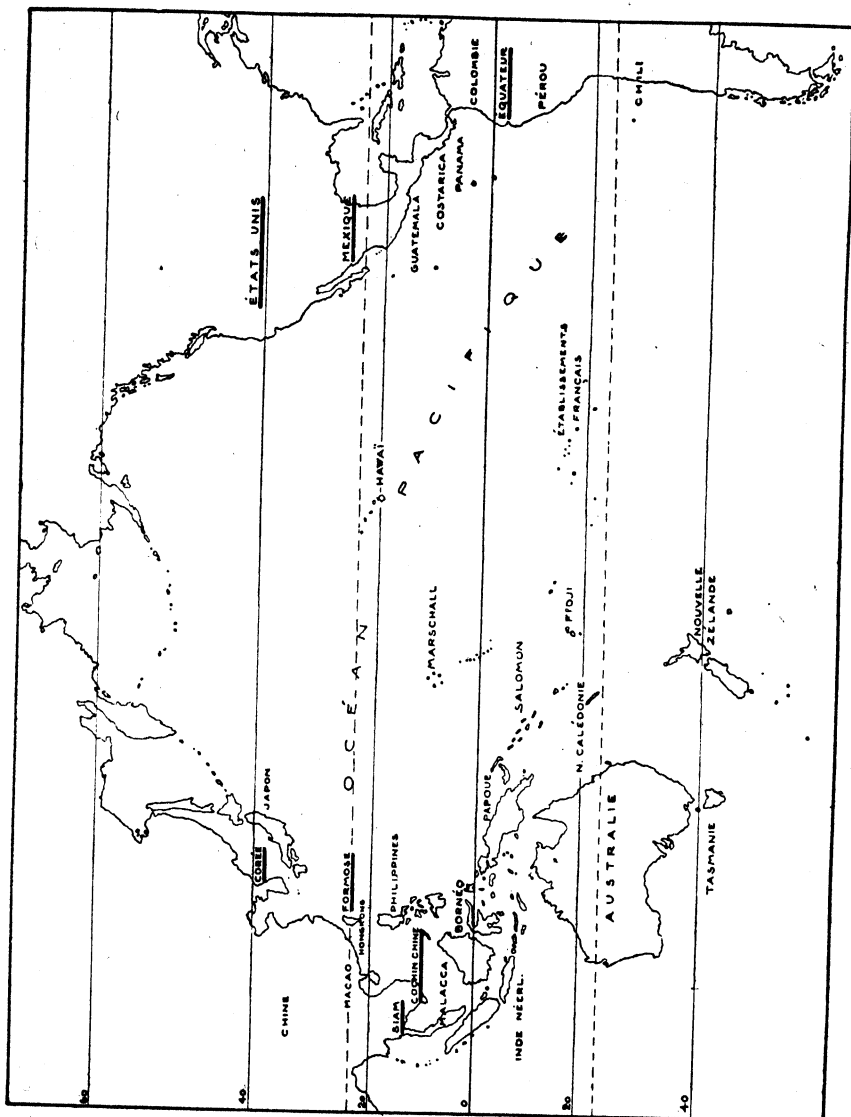


TABLE I.

	Population	Period	Hectares under crop	Production quintals	Yield per ha. quintals	Kg. produced per person
British Borneo	298,000	1927-28	28,959	454,997	15.7	150
Corea	19,015,526	"	1,558,998	31,282,961	19.7	180
Formosa	3,934,810	"	585,040	12,511,630	21.4	320
Philippines	11,583,000	1926-27	1,807,090	21,776,630	12.1	190
Dutch Indies	51,511,688	1927-28	3,542,616	54,489,000	15.4	100.5
Japan	80,521,600	"	3,147,244	112,302,611	35.7	180
Kwang Tung	1,089,678	"	2,047	17,803	6.7	1.5

It will be at once remarked that these statistics should be accepted with a certain reserve since they only refer to one period of a year and therefore cannot reflect the important fact of crop fluctuations. For example the figures for Japan, Java and the Philippines are extraordinarily high for this period 1927-28.

It will also be seen from the figures of production per hectare that the same crop conditions do not prevail in the different Asiatic countries and that cultivation is not developed to an equal degree in each. Although the averages relating to a series of years are not available, it is possible to gain an idea of the natural and technical conditions for rice cultivation. The yield per hectare, for instance, for British Borneo, indicates that there is scope for crop improvement. Rice is grown in this country in accordance with the customary cultivation methods of all the islands of the Archipelago, a small proportion without irrigation and the remainder on flooded rice fields. A special feature of the methods followed in these islands is that no fertilisers are applied. Soil regeneration has to be effected at the expense of the nutritive substances contained in the water of irrigation. Another feature of the rice growing in the flooded rice fields is the transplanting of young plants from special seed beds. Speaking generally intensive work is given to the wet rice fields involving a considerable supply of labour. On the other hand the dry cultivation is frequently primitive and the lands when exhausted are left fallow for several years. In 1927-28 there was an excess of rice imports into British Borneo of 460,998 quintals. Hence it appears that this country cannot feed its population from its own production.

In the Dutch Indies, the native agriculture is based on rice. The same methods of cultivation prevail as in British Borneo, *viz.*, irrigated and non-irrigated fields. In the first class are included: rice fields that can be flooded at will, those that depend on the rainfall, and those situated on marshy ground. Only in certain localities is there a systematic use of fertilisers; as a rule no fertilisation is attempted and a large quantity of organic matter which might be highly fertilising is completely wasted. In comparison with Japan and Hawaii the yields per hectare are lower. In the Dutch Indies the costs of rice growing should not be high and the cultivation is so far extensive, but on the other hand if the quantity of labour applied is considered it is intensive. As in Borneo improvements in cultivation are required. Among these the principal are: 1. the systematic utilisation of fertilisers, both natural and artificial; 2. selection of productive varieties; 3. use of improved implements. There are however a number of factors militating against the improvement of native agriculture the chief one being that the cultivators own only very small plots, the average average area not exceeding 0.75 hectares for irrigated rice, and consequently their economic position is precarious. In 1927-28 this colony had to import 958,603 quintals of rice.

The cultivation of rice in the Philippines does not present any special feature

as compared with its cultivation in other Asiatic countries. The great extension of dry cultivation may however be noted due to the low crop yields. In many of the islands the cultivation is still extensive, but an adequate yield per person is sure. There is a small excess of imports, *viz.*, 121,648 quintals in 1927-28.

As regards China, no sufficient data exist on rice cultivation, production and yield. All that is known is the total excess of imports, which in 1927-28 amounted to more than 11,000,000 quintals of cleaned rice. Generally speaking, Chinese methods of cultivation resemble Japanese. Farms are small, but absorb considerable labour; fertilisers, especially organic, are largely employed. Kwang Tung, Hong-kong and Macao, though of little importance agriculturally, have rice fields of the Chinese type, and import large quantities of cleaned rice, more than 150,000 quintals being imported by Kwang Tung in 1927-28. A considerable quantity of rice is used by the Chinese in the manufacture of alcoholic drinks (*brém*, *samson*, *arak*).

In Japan, including Formosa and Corea, rice cultivation is much more developed than in the islands of the Archipelago, and nearly as much as in China. As throughout the Far East, labour is very freely applied, but in Japan large capital expenditure is also made on the crop. Systematic use is made of artificial and natural fertilisers for regeneration of the rice fields, and in consequence the average yields per hectare are very high (see Table I). The yields are lower in Formosa and Corea as the methods of cultivation are more backward. The high yields of Japan are not entirely due to sound methods of cultivation but also to the effect of a sub-tropical climate with summer rains which are especially favourable. Japanese rice growing presents no other special features and is as elsewhere an intensive cultivation with nurseries and transplanting. Most of the varieties of rice cultivated in Japan are distinguished by their short straw and their high yield. In spite of these satisfactory good conditions, Japanese rice growing is not adequate to meet the consumption demands of the country and the export to the colonies. Moreover the large quantities exported from Formosa and Corea into Japan — respectively four and seven and a half million quintals in 1927-28 — have not proved sufficient and it has been necessary to import a total of 17 millions of (cleaned) rice. These very large rice requirements are due to the large demand of the manufacture of *saké*, an alcoholic beverage made from rice residues, of which about 6,820,000,000 litres are manufactured annually.

Since 1928 the zone of rice production has been pushed considerably further to the north. In the north-east of Asia rice cultivation has advanced to Lat. 51° N. as the result in the first instance of Korean enterprise. In 1927 there were in Manchuria alone more than 15,000 hectares of ricefields to the north of Lat. 44° N., and in the Russian Far East more than 25,000 hectares. The average yield is more than 3,200 kg. of paddy or rough rice per hectare. Estimates for the future development amount to an area of 4,000,000 hectares in ricefields.

Rice in the American countries. — In none of the American countries under review here does rice occupy an important place either as a food or as an industrial product. The figures of average consumption are in fact very low: in the United States, for example, they are 10 g. per day per person. In these countries rice growing is looked upon as a useful element in rotation of crops rather than as a crop of first importance as in the Asiatic countries. In Table II the figures are given which relate to rice growing in the American countries on the Pacific.

The small importance of rice growing in these countries is easily seen from this table. Although the average quantity per inhabitant is very small, it is in excess of the needs and the United States, Mexico, and even Ecuador (which does not ap-

TABLE II.

	Population	Period	Area under crop (ha.)	Production (quintals)	Yield per ha.	Kg. produced per ha.
Colombia	8,026,300	1926-27	17,850	159,330	8.9	1.9
Costa Rica	471,525	1925-26	7,059	41,507	5.9	9
United States	118,628,000	1927-28	400,238	8,211,952	20.5	7
Guatemala	2,004,900	1927-28	1,550	15,198	9.8	0.07
Mexico	14,953,334	1927-28	45,031	695,958	15.5	4
San Salvador	1,657,000	1924-25	5,200	100,000	19.2	6
Peru	5,000,009	1926-27	26,175	397,870	15.2	8

pear on this table) are rice exporting countries: in 1927-28 they exported respectively 881,713, 98,473 and 3,043 quintals of cleaned rice.

The American countries situated on the Pacific having an excess of imports are shown in the following table.

TABLE III.

	Period	Excess of imports	Kg. imported per person
Costa Rica	1925	21,034	0.4
Colombia	1925	185,600	2.3
Chile	1927	194,197	7.8
Guatemala	1927	4,158	0.2
Nicaragua	1926	13,914	1.9
Panama	1924	54,503	12
Do. (canal zone)	1927	13,096	
Peru	1926	314,985	6

Motoculture is applied to rice growing in the United States both for cultivation and for harvesting and in spite of the improved machinery utilised it is noticeable that the yield is somewhat low. Rice is in fact a plant which demands more attention and exactitude in its cultivation than can be supplied by the automatic working of machinery. In the other countries the methods of cultivation are generally still somewhat primitive. The total production in the American countries under review is considerable if compared with that of the Asiatic countries, and amounts to about 10,000,000 quintals.

Rice in Oceania. — It is only within comparatively recent years that rice has been consumed in Oceania, and in consequence it has not yet reached the stage of a crop of the first rank. It may however be said that the use of rice is increasing every day in these islands in close relation with the development of agriculture in Oceania and its participation in world markets. As the native populations give up their earlier habits of eating tapioca, sago and millet, they take to rice. The trade in copra which is exchanged for rice also tends to encourage the consumption.

TABLE IV.

	Population	Period	Area under crop ha.	Total production (quintals)	Yield per ha.	Kg. produced per person
Australia	6,110,514	1926-27	1,605	58,476	36.4	0.9
Fiji	171,644	1925-26	3,936	85,104	21.6	50
Hawaii	328,444	v	2,300	134,002	58.3	40
New Caledonia	53,000	1927-28	400	2,000	5	8.7

The principal data relating to the cultivation of rice in Oceania are shown in the tables below.

TABLE V.

	Period	Excess of imports (quintals)	Kg. per person imported
Australia	1927	171,638	28
French Establishments	"	11,393	32.5
Fiji	1926	24,060	14
Hawaii	1927	809,136	96
New Caledonia	"	18,493	34.9
New Zealand	"	36,114	2.5
Papua	"	22,343	8

From Table IV it will be seen that there is only a very small production of rice in Oceania; it does not in fact exceed 280,000 quintals, the greater part being grown in Hawaii and Fiji Is. In the same way, Table V shows that the excess of imports is very small, about 600,000 quintals. Owing to excellent natural conditions and improved methods of cultivation the yields in Hawaii are high, more so even than in Australia where however the methods of cultivation are also of an improved type.

The trade balance of rice in the countries round the Pacific. — To show the balance between the production and consumption of rice, it is clear that figures are necessary showing the averages over a number of years, as the yearly figures are subject to considerable fluctuations following the natural conditions and the population requirements, which are constantly changing. With tropical peoples consumption will vary extraordinarily in accordance with possibilities of supply, much more so than with the populations of temperate countries. For this reason it is difficult to form a precise idea of the fluctuations which may occur in the consumption of the Pacific Asiatic countries.

So far it has only been possible to obtain a very few of these figures and accordingly a completely accurate balance cannot yet be established. Very careful investigation must be made on the subject in many of the Pacific countries with a view to thorough documentation. From the above tables however it is clear that it is only for the Asiatic countries on the West Coast of the Pacific that the question of rice is one of really great importance, and it is the more important because these countries are among the most populous in the world. Attention must however be given to consumption in other countries where the use of rice as a food, even though secondary, is on the increase. Moreover in these same countries the industrial uses of rice and its utilisation as a stock feed are increasing, and this is also the case in the islands of Oceania which have only lately entered modern life.

From the previous tables it can be shown that the total excess of imports into American countries for the period 1927-28 was about 800,000 quintals, while the exports (from the three exporting countries) amounted to rather more than 900,000 quintals. This indicates that in these countries there will be no difficulty as regards the rice supply, the less so as these regions can obtain their rice also from other countries than those of the Pacific.

Oceania requires 600,000 quintals and the Asiatic countries on the Pacific coasts require about 30,000,000 quintals, of which Formosa can supply 3,000,000 and Corea 7,500,000 quintals. The 20 millions remaining have to be supplied by the three great rice exporting countries, Burma, Siam and Indochina, and 40 per cent. of the production of these countries is used to meet these requirements. In

the Far East the only exporting countries are Formosa and Corea. As has just been said Japan draws its supplies from them, and is obliged also to apply to California. It must not be forgotten that Japan exports a little to its own colonies, the Marianne Islands, Marshall Islands.

Although the production of Japan and her colonies is regularly increasing the rice imports of those countries are also steadily growing. In 1928-29, however, owing to exceptionally large crops, the situation has abruptly changed and the supplies within the country are in excess of requirements, and hence the Japanese Government has decided temporarily to prohibit all importation except from the colonies.

The Dutch Indies import from India and also from Siam and Indo-China, to a total of more than 1,000,000 quintals in 1927. The Philippines draw their supplies of rice mainly from Indo-China, and a little from other sources. China imports from Indo-China more than half its rice. The ports of Hong-Kong and Singapore receive more than 3 million quintals from Indo-China, re-exporting a large proportion of imports.

On the whole it may be said that Japan and China depend on rice exports coming from countries not on the Pacific; of the two China is the more dependent having to import more than 11,000,000 quintals from such sources.

If it is desired to establish a balance of rice in the future, attention must be given to the regions of Manchuria and of the Russian Far East where Coreans and Russians are devoting themselves with so much success to rice cultivation. There is little doubt that these regions are likely to become very important new exporting areas for the Asiatic countries of the Pacific.

Crop Fluctuations and Losses. — In establishing a rice balance the extensive crop fluctuations must be shown which occur periodically from time to time. Rice, more than any other cereal, is subject to good and bad seasons. Among the chief causes are: drought, floods, attacks of pests, root diseases etc. These disasters are in part the result of atmospheric conditions, but their gravity varies according to the greater or less degree of improved technique in the cultivation. Such periodic crop failures have a great influence on consumption, imports, exports and prices of rice. It is these fluctuations which give rise to the speculation which is so prejudicial to a well balanced trade. Systematic returns of all the diseases and other disasters which visit the Pacific rice crops are not yet made for all countries.

In reviewing a rice balance account must be taken of the losses due to the commercial preparation which is not uniform in all countries or even in all parts of the same country. On an average it may be said that 100 kg. of "paddy" or rough rice will give from 65 to 80 kg. of cleaned rice. The margin between the two figures depends on the cleaning process. When rice is prepared for home consumption the losses of nutritive substances are less than in the other case. Importations of rice may be reduced by a better preparation which avoids losses of nutritive substances.

Improvements. — The question of rice in the Pacific — and especially in the Asiatic countries of the region — will not be serious so long as that region can draw supplies from other parts and there is in consequence no food shortage. But certain difficulties are to be anticipated; as the economic conditions of the great exporting countries improve there will be more home demand for rice which will progressively reduce their exporting capacity to the Far East. Certain political difficulties are also to be feared which might hinder regular export. China would be the first to suffer from any check on exports.

What means must be found to prevent the aggravation of the problem? It does not seem very possible to replace rice by other foods; it might be done, but it would only be an expedient for a time. The alternative is to increase the annual average production per head of inhabitants. This may be attained in two ways: by an extension of the areas under rice and by an increase of the yield per hectare. Certain States have taken measures for extending their rice-growing areas. For example in the Philippines immense areas are being divided into lots and granted for the purpose of rice growing. New land is however not always available and it is the second method which must call for attention. Improvement of yields can be effected either by the application of better methods of cultivation or by the selection of more productive varieties. In certain Asiatic countries the rice cultivation is already highly improved and a higher degree of cultivation should not be contemplated as there is a risk of exceeding economic possibilities. Even if this improvement was possible, speaking from the economic point of view, it would be essential to ascertain whether the additional production would suffice to feed the additional labour required, and whether the final result might not be a reduction in the average yield per person. As regards dry cultivation it is still more improbable that improvements could be economic. In certain countries such as Guatemala, Costa Rica and Colombia, cultivation methods stand in need of improvement, but for most of the others it appears to be uneconomic to make the attempt.

The same however does not hold good in regard to the systematic employment of fertilisers; in China and Japan they are already extensively used and the other countries would undoubtedly derive great advantage from their application to the rice fields. If there is a shortage of the natural organic manures, recourse should be had to artificial fertiliser.

The remaining type of improvement, the newest and least often adopted, but the most important is the selection of varieties. Up to the present a considerable number of varieties have been cultivated in the Far East, and as many as 6,000 in Indo-China alone. The number is not really so large as it would appear, since the same variety is frequently designated by many different names. Even taking this fact into account however it may be said that the native cultivators grow several hundred varieties, not all of which are of value whether from the point of view of yields or resistance to disease or from that of commercial value.

Moreover in all the dry regions quite inferior varieties are grown. It would seem that it is essential to limit cultivation to certain varieties which have been thoroughly studied and are well known universally if a good commercial product is to be obtained, responding well and completely adapted to climatic conditions. Where rice growing is not an old cultivation this has been clearly understood and in these countries, *e. g.*, Java and many American countries, only certain well chosen varieties either Chinese or Japanese are always found.

It must be admitted that there is very little progress in improvements in strain although a certain number of experimental stations are already at work on the problem. An attempt has been made to gain light on the question by distributing improved seeds to a large number of small cultivators in the Asiatic countries, but with little result so far.

It has not yet proved possible to find a really practical classification of the different strains, although there can be no selection without such classification. Among all the proposed classifications there is not one which is based on definite characters which remain constant. Thus for example without any good grounds a distinction is made between mountain and plain rice. But there is really no true distinction known between the two. Varietal improvement can only be real and

effective if a solid basis with due safeguards against future departures from type is successfully given to the selection of strains.

A. J. K.

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CO-OPERATION AND ASSOCIATION.

Agricultural Co-operation in Czechoslovakia.

Czechoslovakia has now had an independent existence for a period of ten years. During those years, the country has made great progress in agriculture, due, to a considerable extent, to a remarkable development of co-operation among the farming class.

Co-operative Societies of the First Degree. — On 1 January 1928 the total number of the agricultural co-operative societies of the first degree was 9,482, distributed as follows : co-operative credit societies, 5,326 ; purchase and sale societies, 377 ; co-operative societies for transformation and sale of products, 1,100 ; co-operative supply associations 1,213 ; societies for the improvement of agricultural technique, 1,270 ; miscellaneous societies, 196.

Co-operative Credit Societies. — Co-operation in credit takes two forms in its application to agriculture in Czechoslovakia. The greater number of these co-operative societies, which are called " *campelichky* " from Campelik, their founder and promoter, are organised in accordance with the principles of the Raiffeisen banks ; 17 per cent. have been organised according to the system Schultze-Delitsch. All co-operative credit societies have made purchases and sales on behalf of their members ; the law of 1924 only permitted the purchase of commodities required for members' households.

The progress of co-operative credit societies is evident : ten years ago there were only 3,800, and at the present time there are 6,365 in existence. Their membership is about 800,000, farmers forming 60 per cent. of this total. Deposits amount to more than seven milliards and a half of Czech crowns. The average balance-sheet total stands at a little more than 1,000,000 crowns.

Co-operative Purchasing Societies. — The co-operative purchasing societies began to be founded in Czechoslovakia in the first years of this century with the object of obtaining farm requisites for members. This work was done by the " *campelichkys* " but special co-operative purchasing societies were also organised independently. Some particulars may here be given on these societies which belong to the Central Federation of Czech Agricultural Co-operatives Societies at Prague. On 1 January 1928 the total membership of 97 societies of this kind was nearly 78,000. Some of these are very important : the Plzen co-operative society has a membership of 4,600. The aggregate share capital of these 97 societies amounts to 24,000,000 Czech crowns. Their reserve capital exceeds 17,000,000 crowns. In the course of 1927, these societies purchased for their members nearly 4,550 truck loads of rural household requisites and sold more than 26,000 truckloads of agricultural products.

To the agricultural co-operative purchasing societies there should be added a considerable number of consumers' co-operative societies which are working in in the country districts, especially in Slovakia. The societies carry on operations not to meet the consumption needs of their members in the strict sense, but to supply them with household requisites. The number of these co-operative societies in Czechoslovakia is now 1,070.

Co-operative Sale Societies. — These societies appear for the first time in Czechoslovakia in 1890, for the organisation of the sale of cereals and potatoes. The societies sometimes built for the purpose large elevators which did not al-

ways give much result. The societies used to effect sales of agricultural products which they had bought on sale or return from their members. The co-operative sale of considerable lots of different products was up to 1924 carried out through the Central Co-operative Federations, after that date it was done by means of the special organisations set up by the Central Federations. The number of the co-operative societies for the sale of cereals and potatoes wholesale is not more than a few score.

Co-operative transformation of products has been applied in particular to the production of flour. There are 60 co-operative flour-mills, as well as a certain number of co-operative bakeries supplying the public generally as well as their own members. In 1927 there were a small number of co-operative societies for manufacture of starch from potatoes, and more than 260 societies for the extraction of fuel alcohol, of which 200,000 hectolitres were produced in the course of 1927. In that year there were 21 co-operative apple drying societies, and about 34 for the preparation and sale of chicory. It may be noted that in 1927 more than 60 per cent. of chicory production was due to co-operation.

In Czechoslovakia there are co-operative societies for sale of live stock and for sale of killed meat and even for the sale of co-operatively manufactured products (sausages, hams, etc.) The number of societies for breeding and sale of stock is 187. Central organisations are in existence at Prague, Brno, Bratislava and Opava for the centralisation of the sale of live-stock products.

The number of co-operative dairies and butter factories is at present 372 and the quantity of milk received by these societies in 1927 amounted to 200,000,000 litres. These societies undertake the sale of dairy products through the medium of the special Federations which exist in Prague for Bohemia, and in Brno for Moravia. There are 45 co-operative societies for sale of flax. In addition, mention should be made of the societies for the sale of fruits and vegetables, vine-growing co-operative societies, co-operative breweries and malthouses, producing annually 3,000 truck loads of malt.

Agricultural Co-operative Societies of Production. — These societies are due to the agrarian reform of 1919. The main object in view was the cultivation in common of lands granted to these societies in consequence of the terms of the agrarian law. More than 200 agricultural co-operative Societies of production have been organised in a few years since 1919. The majority of these societies are affiliated to the Central Union of Czech Co-operative Societies at Prague. Their position and their activity however is not altogether satisfactory, as they deal with quite small quantities of land. In 1926, eighty such societies had a total membership of 9,400 and only 6,000 hectares of land. The capital which these societies have at their disposal is very limited, and in 1926 did not exceed 4,600,000 crowns, while deposits only amounted to 2,000,000 crowns. Very often the co-operative principle of administration is disregarded, a manager instead exercising a one-sided authority and profiting by it in a way not consonant with co-operative principles.

Co-operative Societies for the Improvement of Agricultural Technique. — Among these societies the most important are those for the utilisation and placing out of machines as well as those for application of electricity to agriculture.

The use of agricultural machines by small holders is only possible when the principles of co-operation are followed. The results achieved by these co-operative societies are not, however, always satisfactory. In order to do well they must have a fairly considerable number of members, as it is only in these conditions that

machines are utilised with economy and in the best way. But, if at the same time there are a large number of members in a society of this kind, there is often more likelihood of unskilful and even of untrustworthy handling of the machines, which must in any case be frequently repaired, in itself a source of expense. In spite of this fact and on account of the definite advantages of these societies their number does not decrease. There are now nearly 200.

The electrification societies are grouped in two classes : 1. those which supply their own power ; 2. those which merely distribute power.

Societies of the first type have their own generating stations and an electrified system for transmission to their members. A co-operative society of this kind sometimes distributes power over a wide radius, and membership includes not merely individuals but also smaller societies.

On a small society acquiring a certain proportion of shares in a large society or Federation, it is instructed to supply and to distribute electric power to its members.

Societies of the other class obtain the requisite electric power by joining the Federation, but they instal a supplementary system and distribute electricity to their members.

Federations of these co-operative societies exist in nearly all large centres in Czechoslovakia. Among these federations are some very large organisations. The Boudeyovice Czech Federation, for example, groups 81 societies : the Prague Federation, 102 : that of Kradec-Kralové, 325. A detail of the organisation of the electrification societies is that their members have no equality of voting power in the general meetings of members. It frequently happens that one member who has only one share in the society has only one vote at the meeting, while another who has taken up 50 shares has 30 votes. The explanation of this difference is that the electrification societies are anxious to secure as much capital as possible.

Government assistance has no doubt contributed to hasten the development of these societies, of which there are at present more than 100. This assistance was first given in 1919, when 75,000,000 crowns were assigned mainly for loans to electrification societies, up to 10,000,000 crowns annually, for five years, on condition that 50 per cent. of the required capital was found by the society concerned.

Special Federations. — The agricultural co-operative societies are grouped in special federations corresponding to the branches of industry and trade to which they are subsidiary. There are in Czechoslovakia more than 15 special federations, including the large electrification societies already mentioned. Among the special co-operative federations there may be mentioned the Union of Co-operative Dairies, at Prague ; the Union of Agricultural and Land-holding Co-operative Societies ; and four territorial societies for the sale of live stock.

Central Federations. — The federations already referred to as well as the co-operative societies of the first degree, even if not affiliated to a local federation, nearly always belong to one of the 14 central agricultural co-operative federations in Czechoslovakia. All these federations, except the "Centro-co-operative" to be described later, must present two special features. In the first place, they must have a national character ; hence there are a number of federations in the different parts of Czechoslovakia. In Bohemia there are three agricultural co-operative federations, viz., 1. the Central Union of Czech Agricultural Co-operative Societies in Prague, to which members of the Republican agrarian party belong ; 2. the Federation of Czechoslovakian Co-operative Agricultural Societies, in Prague,

which is in close touch with the popular party, and 3. the Central Federation of German Co-operative Agricultural Societies in Prague. Moravia has also three federations, including two Czech and two German. In Silesia, there are also three federations, a Czech, a German and a Polish. Slovakia has two federations, one which is the Central Co-operative Union in Bratislava representing Slovak co-operation; there is besides in Ruthenia a federation which groups co-operative societies of different nationalities.

In the second place, each of these federations groups agricultural societies of different kinds, but it also carries on different operations. It ensures diffusion of co-operative ideas; it protects the general interests of co-operative societies; accepts deposits; makes loans, undertakes the audit of societies' accounts, etc. Up to 1924 the federations were even the centres of commercial operations for their affiliated societies.

The largest of these Federations is the Central Union (*Ustredni Iednota*) of Czech Agricultural Co-operative Societies in Prague, grouping 3,069 societies. The most recent is the Ushorod Federation, in Ruthenia, with a membership of 317 co-operative societies.

Except in one federation, the number of shares which the co-operative societies must purchase in the federation depends on the number of members there are in each co-operative society. In some cases the liability of the co-operative societies which are members of a central federation does not exceed the total of the shares bought, while in the other cases it exceeds it by five times and even ten times. The total sum of the share capital in the central federations amounted on January 1927 to nearly 26,500,000 crowns; the aggregate sum of the owned capital of the federations amounted to nearly 138,000,000 crowns.

Commercial organisations. — After the promulgation of the law of 1924, already mentioned, the Central Co-operative Federations, which are financial centres for the affiliated associations were obliged to discontinue buying and selling operations. In order to continue these operations, 11 new centres of a commercial character were formed in 1925. These new centres are almost exclusively organised in accordance with the principles of share companies, and it is the Central Co-operative Federations which inaugurate these commercial organisations and appoint their managers. Each one of the federations mentioned above has attached to it a commercial organisation of this kind, and holds the larger part of the shares.

Some of these organisations have only a very small share capital; for example, the German commercial centre at Opava has only 50,000 crowns. Others have large capital; e. g., the "Co-operative", the commercial centre for the Czech agricultural co-operative societies of Bohemia, in Prague, has a share capital of 20,000,000 crowns. In 1927 the commercial centres sold 141,731 truck-loads of commodities and products for a sum of 1,021,000,000 crowns.

The Centro-co-operative. — This is a central federation for the central unions in Czechoslovakia. It gives advice to the federations affiliated to it; it organises supervision of their working in accordance with the law; it draws up the general statistics of the societies of which it consists; it applies to other institutions to obtain for its members the privilege of credit on favourable terms; it organises congresses, exhibitions, etc.

Every member of the Centro-co-operative is obliged to purchase a certain number of shares, worth 1000 crowns each. The co-operative federations are obliged to

take additional shares in the ratio of one to each group of 25 members or fraction of 25 members. Corporate bodies which are not co-operative are obliged to purchase as many supplementary shares as there are multiples of 500,000 crowns in their annual turnover. Independently of the purchase of a certain number of shares, each member is obliged to place at the disposal of the Centro-co-operative, in order to meet necessary expenses, a sum proportional to the number of shares purchased and fixed by the general meeting of shareholders. Individuals who are members of the Centro-co-operative have only one vote each at the general meeting; delegates of corporate bodies have at the meeting as many votes as they have purchased shares.

The Centro-co-operative is under the direction of a general meeting a Supervisory Council, formed of six persons elected for three years by the general meeting, and of the Administrative Council which consists of a chairman, a vice-chairman and seven members, all elected for three years.

Since 1921, the date of its foundation, the Centro-co-operative has succeeded in becoming a centre in which the agricultural co-operative federations representing the interests of the various nationalities work together amicably. It has done much to draw the attention of the legislative chambers and the government circles to the needs of agricultural co-operative societies. Thanks to its efforts, the law already referred to was successfully passed in 1926, viz., for the earmarking of 10,000,000 crowns to provide loans for electrification co-operative societies, and also a recent law giving the co-operative societies for the manufacture of alcohol the right to receive the Government loans up to a sum of 4,000,000 crowns per annum for three years. The Centro-co-operative took part in the expense of establishing the Higher School of Co-operation, founded in connection with the Ministry of Agriculture, and by means of a special fund, known as the "campelichkys" fund, which at present amounts to 600,000 crowns, it has issued several publications of a practical kind or for propaganda purposes.

S. BORODAEWSKY.

MARKETING OF AGRICULTURAL PRODUCE

Currant Trade in Grece.

The importance of the currant trade in Greece, has already (1) been noted, and a general description given of the lines on which this trade is organised. A brief survey will now be taken of the present extent of currant growing in Greece in relation to the position of the product on the foreign market.

The vine is grown in almost all parts of Greece; there being two types under cultivation: the currant vine which is grown over a total area of about 65,000 hectares and the vine for wine-making which covers about 150,000 hectares. While the currant vineyards only represent in area less than half the wine vineyards, the economic return of the former is nearly double. The new crop of currants of 1928-29 is estimated to amount to 310,000,000 Venetian pounds. Adding the stock of 5,000,000 Venetian pounds coming from the previous harvest, the total is reckoned at 315,000,000 Venetian pounds. The probable export is estimated as being 180,000,000 Venetian pounds, a figure expressing the approximate average of export. As however this year large quantities of currants are coming on the international markets and the price in Greece is high, the export figures may not reach this esti-

(1) Currant Trade in Greece. *International Review of Agriculture*, Rome. No. 9, October 1927.

mate of 180,000,000 Venetian pounds. The crop of dried vine fruit in California has advanced from 300,000 tons in 1927 to 350,000 tons in 1928, and in Turkey from 40,000 tons to 50,000 tons. On the other hand the stocks of the 1927-28 crop amount in America to 100,000 tons. Thus, not only is there this year an excess production of similar competing products, but there are also large stocks in existence. At the same time the prices of currants in Greece are high in comparison with those of the Californian product, as may be seen from the following figures, in shillings :

	Greek sultanas	Greek currants	Californian raisins
1927	50	42	54
1928	35	51	38

For October delivery 1928, the price of Californian raisins was only 32 shillings. The year before, the competition of Californian raisins was less noticeable for the simple reason that the prices of Greek currants were less high. The competitive prices, at first higher, have steadily dropped, while those of currants began on a somewhat low level and are now advancing. The Independent Currant Office, a State institution which regulated the quantities to be exported as well as the stocks intended for industry, has assured to Greek vine-growers at the beginning of the season prices which are on an average 46 shillings, pro forma. The attempt to maintain prices still higher, an attempt which is being made just now by the vinegrowers, and without regard to the conditions of the international market, would end in bringing about the ruin of one of the most important branches of economic activity of Greece. The Minister of National Economy has expressed himself as follows on this subject : " Undoubtedly since they have to support the burden of heavy cultivation expenses and the high cost of living at present, the growers have a claim to sell their products still dearer. But in fixing the prices they should take account of the fact that the currant is not a monopoly for Greece and that it has many powerful rivals on the foreign market ". The full truth of these remarks only appears in full when a rather closer analysis is made of the export trade in dried vine fruit of the most important countries during the last few years (1).

Country	1924	1925	1926	1927
	quintals			
Greece	1,068,927	947,103	945,193	945,290
United States.	417,936	571,178	639,733	804,827
Australia	208,458	185,152	114,119	333,383

From this table a clear idea is obtained of the facts. In 1924 the Greek export was still nearly twice as much as that of the United States and Australia taken together. After that date, the Greek export showed a marked decline in 1925, remaining stationary in the three following years, while the United States export figure was nearly doubled during the same period, and that of Australia, after a decline in 1925 and 1926, rose by one half in 1927 as compared with 1924. In 1927 the Greek export only represented three-fourths of that of the two other

(1) International Yearbook of Agricultural Statistics. Rome, 1928, pp. 280-293.

countries. In September 1928, the currant export from Greece amounted to 29,381,546 Venetian pounds, as compared with 35,796,157 Venetian pounds for the corresponding month of 1927 and 30,159,618 Venetian pounds in September 1926. The export in September 1928 shows a decline of 18.3 per cent. as compared with the corresponding month of 1927 and of 3.1 per cent. as compared with September 1926.

The unfavourable affect of the high prices on consumption in England is seen from the comparison between the four first months of the vine growing year 1928-29 and the corresponding months of the previous year:

1926 September-December	60,400 tons.
1927 " "	59,500 "
1928 " "	54,700 "

The export of currants to other countries during the year 1927-28 has reached a total of 181,126,830 Venetian pounds. By country of destination this export was distributed as follows:

	Venetian pounds
Great Britain	124,542,454
Holland	19,751,132
Germany	17,658,774
United States	9,793,521
Italy	6,990,258
France	892,402
Canada	744,665
New Zealand	228,341
Brazil	58,566
Egypt	41,185
Australia	41,098
India	9,928
Sweden	7,814
Rumania	3,920
Other countries	362,769
Total	181,126,830

With this tendency to a decline in exports the economic position of the Independent Office of the Central Organisation of Vine-growers becomes more and more difficult. Taking as a basis the average available quantity for export, viz., 180,000,000 Venetian pounds, and taking into account the stock withheld intended to maintain the equilibrium between supply and demand, a total of 275,000,000 Venetian pounds results. Deducting this quantity from the figure of the total estimates of the crop and of surplus stocks, a figure amounting to 315,000,000 Venetian

pounds, there is a remainder of 40,000,000 Venetian pounds to be bought by the central organisation at the end of the season, that is in August 1929, at the rate of 3,900 drachmas per 1000 pounds. Consequently the Independent Office will be obliged at that date to find the sum of about 156,000,000 drachmas for the purchase of the currant surplus. In addition there will be the sum of 50,000,000 drachmas in land tax on the crop as well as the expenses of working the general warehouses and the Independent Office, *viz.*, about 12,000,000 drachmas ; and a further 8,000,000 drachmas representing interest at 5 per cent. Hence the total of the obligations of this organisation for protection of Greek currants will amount to 226,000,000 drachmas.

The main source from which it is anticipated that these expenses will be met is the levy on the export of currants. This levy was first instituted in 1924 and fixed at the rate of 1,200 drachmas per ton. Since the regulation of the general currant position in August 1925 the Independent Office has steadily reduced this levy as follows :

Year	Average consumer's price per quintal	Export levy in pounds sterling per ton	Proportion of the levy to price
1925	26	4.80	18.4 per cent.
1926	38	3.68	9.6 » »
1927	46	3.50	7.6 » »
1928	50	3	6.0 » »

The levy, which shows so marked a reduction, is reckoned on an average export of 180,000,000 Venetian pounds, or about 85,000 tons ; it is estimated that the yield of the levy is 95,000,000 drachmas. Another source of income is found in the value of the stock withheld and the surplus stocks, *viz.*, 130,000,000 Venetian pounds at a price for industrial or household use of 1000 drachmas per 1000 Venetian pounds, in all 130,000,000 drachmas.

As income too may be reckoned the interest on the funds of the Independent Office deposited at the National Bank which is at 4 $\frac{1}{2}$ per cent., a sum of 14,000,000 drachmas. Thus the assets of the *Caisse de prévoyance* of the Independent Office are 239,000,000 drachmas as compared with liabilities of 226,000,000 drachmas, the balance being only 13,000,000 drachmas. This is a very small margin in proportion to the budget as a whole, and the smallest modification made in the bases of the calculations would transform it into a deficit.

It is of interest to note that during the past year, the Independent Office has attached great importance to the improvement in quality of the currants. At the time of export the proper condition of the fruit and its suitable packing are subject to inspection by specially appointed officers. Among important events having direct bearing on the export trade, the conclusion of a commercial treaty with Germany may be mentioned, which provides for reduction of German import duties on currants. Propaganda in favour of currants is being carried on with great vigour by the Independent Office in England, Germany and also in the Far East, in particular in China and Japan, an agency having been established in Shanghai for the sale of the product. In Italy there is beginning to be a demand for currants since the Independent Office took part in the Milan Fair. A dépôt has been established as a permanency in Milan. Satisfactory results have been obtained on the South American markets, especially in Argentina.

The efforts of the Independent Office for protection of the currant trade do not extend to expansion of the foreign trade in the product but also to increasing the home consumption. Very encouraging results have been obtained in this direction. The consumption of currants in Greece was 614,252 Venetian pounds in 1925-1926; in 1926-27 it advanced to 2,800,000, and in 1927-28 to 3,580,000 Venetian pounds. During the present grape growing season it is estimated that the home consumption will greatly exceed that of the previous year. The falling off in the Greek currant export is however not thereby balanced and it would be well for those concerned to follow carefully the course of the market in view of the steadily growing Californian export which is offered at prices definitely lower than those of Greek currants.

M. T.

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Le Messager d'Athènes, Nos. 1811, 1813, 1814, 1833, 1854, 1881, 1902, 1921. Athens, 30 September, 2, 3 and 22 October, 22 November, 19 December, 1928, 11 and 30 January 1929.

CREDIT

Mortgage Indebtedness of Farmers.

The extent of mortgage indebtedness in the different countries forms a valuable indication of the conditions of land ownership, as well as an index of the development of a type of credit alike widely diffused and affording good security. Less interest is probably now taken in questions relating to such mortgages as may encumber estates not yet freed from ancient dues, and instead attention is being keenly directed on the other type of mortgage indebtedness, which has so great an importance at the present time and gives rise to so much business, in other words the loans made in favour of agricultural and building property. This type of mortgage indebtedness is directly connected with the increase in production and with the general prosperity. Statistical returns of this important phenomenon are not as widely available or as frequent as would be desirable, owing to their complexity and the lengthy and detailed work necessitated. In certain countries preliminary arrangements for such returns have been made, but either nothing further has been done or a beginning has been made and not followed up. Thus in France the subject has been studied for some time and the bases laid of a systematic return (1). Similarly the Hungarian Government some years ago made special enquiries into the subject but the result is not known. Important investigations were made by the International Institute of Statistics (2). The Italian Government has published two statistical statements of the mortgage interest-bearing debt, the first at the end of 1903 for the thirty years 1874-1903, the second in 1915 for the thirty years 1881-1910. On account of difficulties which supervened the statistics which ought to have been kept up to date from year to year were interrupted. Within recent years, on the initiative of special institutions (*Institut für Konjunkturforschung* in Germany, etc.) and of economists and students of questions relating to the land, these investigations have been resumed, but remain sporadic and disconnected. The data which have been obtained for a certain number of countries, partly by means of a direct enquiry, will be given here.

(1) See the *Bulletin du Conseil Supérieur de Statistique*, 1897, No. 6.

(2) *Bulletin de l'Institut International de Statistique*, Vols. XI, XIII, XIV.

Germany. — For reasons which are well known (3) the general indebtedness of agriculture has been increasing considerably in the last few years. According to the Institute for Conjuncture Research (*Institut für Konjunkturforschung*) the ascertainable or registered indebtedness was increased in 1927 by RM. 1,124,800,000, and on 31 August it amounted to RM. 5,855,700,000. The increase was largely due to the growth of mortgage credits, which at the end of 1925 were 31.7 per cent. only of the total credits, while at the end of 1926 they amounted to 51 per cent. and by the end of August 1928 to 57.7 per cent., or in actual figures, RM. 3,381,500,000. For reasons that will be readily intelligible it is impossible to ascertain precisely the general indebtedness of German agriculture: it may be mentioned merely that the sum already indicated of RM. 5,885,700,000 includes: 1. the so-called floating credits (*Schwimmkredite*) which at the end of 1927 were equal to RM. 1,800,000,000; 2. the revalorisation charges estimated by the *Institut für Konjunkturforschung* at RM. 2,800,000,000; 3. the interest charges of the debts contracted by the farmers at the *Rentenbank* amounting to RM. 2,000,000,000; 4. RM. 1,000,000,000 of registered mortgages for purchase of land or on inheritance; this sum represents loans made by private individuals. The aggregate indebtedness of German agriculture amounted in August 1928 to RM. 13,455,700,000.

Austria. — The degree of farm indebtedness is markedly on the increase. In Lower Austria it is calculated that in 1926 it had increased by 800 per cent. as compared with 1925.

Denmark. — The latest year in which the mortgage indebtedness was ascertained was 1909, in which the total value of real property for the whole of the rural communes amounted to 3,413,000,000 crowns, with an indebtedness of 1,778,000,000 crowns. For the period 1909-24, while the value of the property rose according to the official estimate for the tax on real property, from 3,413 to 7,042 million crowns, it was calculated on the basis of the reports of the district courts relating to mortgages registered and mortgages cancelled, that the indebtedness had been increased by 2,500 million crowns which is also partly due to the rise in prices. Statistics of the sales of real property show that in 1918 and in 1924 sales were effected of rural property (arable lands with building, machinery and live stock) for totals of 344,815,000 and 170,112,000 crowns respectively, with mortgages amounting respectively to 139,986,000 crowns, or 40.4 per cent. and 85,050,000 crowns or 50 per cent.

Sweden. — The difficulties arising from the want of equilibrium between production costs and prices of the principal agricultural products which was especially marked in certain years between 1914 and 1923 have caused an increase in mortgage indebtedness which according to official data is as follows:

Rural Mortgage Indebtedness at the end of the year.

	Crowns	Percentage of rated value
1900	1,193,540,696	41.7
1910	2,002,260,391	48.9
1915	2,449,321,136	43.9
1920	3,425,972,535	43.8

(3) See: Position of German Agriculture in the First Months of 1928. *International Review of Agriculture*, No. 10, October 1928, p. 867. Rome. International Institute of Agriculture.

	Crowns	Percentage of rated value
1921	4,024,239,694	47.2
1922	4,359,882,914	46.0
1923	4,539,145,717	47.5
1924	4,634,859,506	48.0
1925	4,753,573,885	48.8

Netherlands. — The present indebtedness of the farmers exceeds the pre-war amount by about one third.

France. — Before the war certain economists valued the mortgage debt on rural property at 4 milliards of francs. It is considered however that in the post war period it has diminished, amortisation being facilitated by the depreciation of the franc ; but this latter fact might in its turn have stimulated the farmers to the purchase of rural property. Such purchase is not always paid in cash and the result might have been a fresh debt, not ascertained.

The debt to the Crédit Foncier of France, guaranteed by rural property, amounted on 31 December 1926 to about 400,000,000 francs.

Italy. — There is no recent or complete information on the mortgage indebtedness of the farmers, the latest official statistics referring to the position at the end of 1910 ; but the following data are available for loans on rural property made during the year by the mortgage credit institutes, which in Italy are the chief lenders of money against mortgage guarantee and number eleven at the present time :

Mortgage Loans on rural property.

Years	Number	Million liras
1924	431	125.8
1925	429	140.6
1926	559	136.3
1927	987	234.5
1928	2,470	362.7

No information is available as regards the total of the mortgage loans granted by the other organisations and societies, including the ordinary savings banks and other banks, and by individuals. Mortgage indebtedness has naturally increased in correspondence with the loans.

Switzerland. — According to a recent estimate made by the Secretariate of the Swiss Peasants, the mortgage debt on agriculture amounted in 1911, in 1919 and in 1926 respectively to 3,324,000,000 francs, 3,148,000,000 and 3,642,000,000 francs.

Czecho-Slovakia. — Mortgage credit is arranged in Bohemia, Moravia and Silesia by the large banking companies which constitute the most important element in the financial organisation. In the years 1919 to 1926 these institutions made loans for the sums shown below :

Mortgage Loans in Bohemia, Moravia, Silesia.

	On agricultural holdings registered in the National Register		On other agricultural holdings	
	Banks	Thousands of Czech crowns	Banks	Thousands Czech crowns
1919	9	4,201	74	2,872
1920	13	33,532	60	24,332
1921	18	8,326	47	14,547
1922	21	40,235	65	7,854
1923	15	30,362	88	6,104
1924	14	19,125	59	2,071
1925	10	5,930	65	3,206
1926	7	11,855	55	2,240

In Slovakia and in Sub-Carpathian Russia (Ruthenia) mortgage operations are carried out by institutions of the nature of savings banks or co-operative credit societies. The following data as regards the loans made by these institutions are taken from their balance sheets on 31 December of the years shown.

Mortgage Loans in Slovakia and Ruthenia.

Years	Slovakia		Ruthenia	
	Institutions	Thousands of Czech crowns	Institutions	Thousands of Czech crowns
1919	209	—	4	—
1920	207	219,231	36	6,195
1921	181	181,055	36	5,854
1922	165	269,519	35	3,003
1923	—	—	—	—
1924	128	163,031	29	3,392
1925	107	152,237	25	3,606
1926	82	230,466	21	4,253

Bulgaria. — Rural mortgage credit is essentially carried on by the Bank of Agriculture, a State institution, founded in 1894, which during 1926 made mortgage loans to a total of 216,000,000 *leva*. To this figure there should be added 159,263,033 for similar operations carried out by insurance societies.

Yugo-Slavia. — The special Committee of economists appointed by the Government in October 1927 for the study of the problem of credit (1) calculated the total indebtedness of the peasant farming class at 2,700,000,000 dinars. The greater number of the debts have been taken up at the banks. 65 per cent. of the peasant farmers had incurred long term liabilities.

Lithuania. — The mortgage indebtedness of the farmers varies from 12,000,000 to 15,000,000 *lits*.

Japan. — There are no separate data on the indebtedness of the farmers, but it is calculated that the total indebtedness of farms, arable land, houses and buildings and real property in general amounted in 1925 to 5,372,910,000 *yen* as compared with 1,615,177,000 *yen* in 1914.

(1) See: Agricultural Credit Conditions in Yugo-Slavia. *International Review of Agriculture*, No. 9, September 1928, p. 779. International Institute of Agriculture.

India. — Mortgage loan business is mainly in the hands of moneylenders, but a certain regulation by the Government exists. In India, indebtedness of the peasant is an accepted fact in the social and economic structure (1), and one of immense importance, although exact figures are not ascertainable. A movement for establishing co-operative land mortgage banks is in progress, and 12 such banks are already in existence in the Punjab and 15 in Madras Province.

United States. — The following data are taken from the latest official Census of Agriculture and relate to the farm mortgage debt in 1925 :

Farms operated in part by owners :

Total number	3,868,332
Number reporting mortgage debt	1,395,026
Per cent. of total	36.1

Farms operated by full owners (entirely by owners) :

Total number	3,313,490
Number reporting mortgage debt	1,128,207
Acreage of farms reporting debt	172,192,218
Value (land and buildings)	\$ 10,790,244,351
Amount of mortgage debt	\$ 4,517,258,689
Ratio of debt to value per cent.	41.9

Average per mortgaged farm :

Value of lands and buildings	\$ 9,564
Mortgage debt	\$ 4,004

Average per acre :

Value of lands and buildings	\$ 62.67
Mortgage debt	\$ 26.24

Canada. — Before the war the indebtedness of the rural class was not high ; but during the war and in the post-war years numerous purchases of land were made at high prices bringing about a considerable increase in the mortgage debt which is in process of reduction in the last few years (2).

Australia. — Mortgage loans are arranged through the State Savings Banks of New South Wales and Victoria, the Agricultural Banks of Queensland, Western Australia and Tasmania, and the State Bank of South Australia. Taking all types of loan together, these institutions made loans to settlers in 1925-26 amounting to £7,883,924, a large part of which were on mortgage guarantee. The total advances made up to 30 June 1926 amounted to £121,575,168. In particular, the fig-

(1) See : DARLING M. : The Punjab Peasant in Prosperity and Debt. London, 1925.

(2) The Canadian Farm Loan Act of 1927 has established a system of long term mortgage credits for farmers, the required funds being partly contributed by the Dominion and Provincial Governments and partly obtained by issue of farm loan debentures. The contribution of the Dominion Government will not exceed \$5,000,000 free of interest for three years. The maximum loan will be \$10,000. Previously mortgages on farm land were made by banks, but figures cannot be obtained.

ure of the mortgage loans of the Farm Loan Department of the State Savings Bank of Victoria passed from £1,675,965 on 30 June 1914, to £3,569,980 on 30 June 1927.

Union of South Africa. — The Land and Agricultural Bank is the central organ of the Union for agricultural and mortgage credit. Since its establishment in 1912, the total amount granted in mortgage loans to farmers up to the end of 1927 has been £19,105,402. There is a tendency towards increase of these operations, the loans made in 1926 amounting to £1,207,800 while those made in 1927 amounted to £1,809,835.

Argentina. — Special information on the rural mortgage debt is not available, but the following data may be quoted as regards the operations carried out by the *Banco Hipotecario Nacional*. This bank is empowered by law to make loans for land settlement purposes up to 80 per cent. of the estimated value of the lands.

Year	Area hectares	Total pesos (paper)
1921	7,528	1,124,100
1922	9,442	1,187,700
1923	32,858	5,160,750
1924	74,800	11,341,150
1925	108,147	21,996,600
1926	74,107	15,681,000

There is a decided increase in the figures from 1923 onwards, clearly corresponding to new agricultural and land settlement developments in Argentina.

Uruguay. — The Bank of the Republic has recently reorganised its agricultural credit department (I), and a marked increase is here also noticeable in the mortgage operations, the total amount of these loans on 31 December 1926, being \$2,854,466.97, whereas by 31 December 1927 it amounted to \$3,471,986.24.

From the available data it appears that there was generally speaking a decrease in the rural mortgage indebtedness during the war and in the years immediately following the war, due to the smaller demand for capital on loan, and to the tendency of borrowers to profit by the depreciation of the currencies to free themselves from the burden of debt; once the phase of deflation and stabilisation had begun, the effects were especially felt in agriculture and there was a recrudescence of indebtedness. It is however evident that this phenomenon is not everywhere an indication of poverty, since in many countries, now that the crisis of rehabilitation is over, the economic revival is taking shape in agriculture in the form of a growing demand for credit for production purposes which is a favourable symptom of the new situation that is, in some countries, now arising. The inadequacy of the statistics of land mortgage operations is the more regrettable as such statistics would enable us to ascertain not only the causes of indebtedness but also the extent to which the indebtedness is an index of economic progress or of the

(1) See: *International Review of Agriculture*, No. 10 (November) 1927, p. 1184. *International Institute of Agriculture*.

reverse, and would supply definite information on conditions of land ownership which would form valuable material for enquiry and consideration by legislators and administrators.

G. C.

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Rural Mortgage Credit and Agricultural Credit in Bulgaria.

Up to the last few years, in Bulgaria, the organisation of mortgage credit was centralised in the two principal banks of the State : urban mortgage credit in the National Bank of Bulgaria founded in 1879, and agricultural credit in the Bank of Agriculture of Bulgaria. These two banks were the only ones which had the right of issuing mortgage bonds against the mortgage loans made by them. The figures which follow make clear the course of the mortgage operations of the National Bank of Bulgaria during the years 1890-1926 (in thousands of leva) :

Year	Resources		Investments	
	Fixed Deposits	Mortgage bonds	Mortgages	Loans to agricul. banks to communes and to districts
1890	13,576	3,879	12,156	6,478
1900	60,710	18,293	32,787	15,054
1910	42,642	29,568	29,856	9,729
1920	152,505	26,150	24,617	23,576
1926	312,592	62,165	256,431	74,426

The Bank of Agriculture, founded in 1894 and under reorganisation from 1904 to 1907, had on 31 December 1927, a capital of 461,400,000 leva, built up from the payments of the agricultural population.

By the terms of the Law relating to this Bank its operations are thus defined : 1. advances to the agricultural population directly, under the form of loans on mortgage, loans on pledge of live stock, machines and agricultural products, loans to farmers on deposit of bonds issued or secured by the State, and on deposit of commercial bills, etc. ; 2. advances to agricultural co-operative societies using the loans to open personal credits, advances on current accounts against pledge of undiscounted bills, live stock, etc. ; and finally, 3. supplies of farm equipment, live stock and seeds. The Bank does not make such supplies directly, but agricultural machines and copper sulphate, supplied for sale or return by the Ministry of Agriculture, have been placed by means of the Bank agents.

At the end of 1926 the deposits in the Bank amounted to 2,157,000,000 leva. The investments of the Bank, during 1926, consisted in loans made directly to the agricultural population, as follows :

	Leva
Advances on notes of hand	493,000,000
Loans on pledge	695,000,000
Loans on mortgages and on current accounts . .	216,000,000
Advances on bonds	22,000,000

The agricultural co-operative societies have utilised a credit of 836,000,000 leva, mainly on current *i. e.* accounts, 1,320 societies so benefiting. The societies benefiting most extensively, for an amount of 355,000,000 leva, are the tobacco growers' societies ; next come the co-operative credit societies, for an amount of 318,000,000 leva.

Apart from the two State banks, mortgage loans have been made in Bulgaria by a private mortgage bank, as well as by insurance societies, the investments of which amounted in 1926 to 159,263,033 leva.

The total of mortgage investments was however quite insufficient to meet the requirements of long term mortgage credit in Bulgaria. The need for credit of this kind is the more stringent, since the Mortgage Section of the National Bank has been abolished as from 1 January 1927, in accordance with the request of the Council of the League of Nations which authorised in 1926 the issue of the Bulgarian loan for refugee settlement. This Bank has become purely an issuing Bank, thus enabling it to safeguard better the stability of the national currency. In Bulgaria as in many countries the credit inflation resulting from the war and its consequences has brought about depreciation of the bank note. It was not till 1923 that it proved possible to put a check on inflation and to stabilise the national currency at the rate of 139 leva to the dollar. The question of the legal stabilisation of the paper leva is now the subject of a special law which will shortly be submitted to the approval of the Chamber of Representatives. In accordance with its new function, the Bank, not wishing to risk the long-continued immobilisation of its resources, has thus given up all long term credit operations and all issue of mortgage credit.

So as to ensure a more regular and more extensive service of mortgage credit, the Bulgarian Government has decided to appeal for foreign capital. The preliminary discussions with representatives of powerful banks, such as Blair and Co., Foreign Corporation, New York and Lazard Bros. and Co. Ltd. London, have re-

sulted in the establishment of a new mortgage bank of Bulgaria on the base of a special law, passed in the autumn of 1927 by the *Narodno Sobranie*. This bank began working on 10 May 1928.

This mortgage Bank is constituted under the form of a limited liability share company with headquarters at Sofia. It is formed for the purpose of granting long term mortgage loans to owners of urban or rural real property and to communes, districts, co-operative societies, syndical associations, etc. The capital is fixed at 10,000,000 gold leva (francs), divided into 20,000 shares of 500 francs. Out of these 20,000 shares, 2000 are reserved for the Bulgarian Government, 2000 for the Bank of Agriculture of Bulgaria, 2000 for the Co-operative Bank of Bulgaria and 2000 to the Insurance Companies the headquarters of which are in Bulgaria. These 8000 shares are in principle inalienable. So long as they are held by the State or by the other shareholders of the Bulgarian group, they must be assigned by name. The remaining 12,000 shares are held by foreign capital. The Bulgarian State has reserved the right to repurchase these 12,000 shares at the end of eight years, on payment of a premium of 15 per cent., in addition to the face value of the shares. In this way this Bank will become a real State Bank of Bulgaria. The State has guaranteed to the shareholders an interest of 7 per cent. for the capital invested in this bank. In order to find immediate capital for the Bulgarian mortgage credit requirements, it is essential to ensure certain privileges to investors; for example, a promise has been made not to establish till after the lapse of 25 years another mortgage Bank in Bulgaria as also to give preference, at the time of sale of mortgaged property, to the mortgage bonds of this new Bank over any other debts or obligations burdening the property, excepting always taxes. This is a fundamental condition of all mortgage credit.

The Bank is administered by a Management Council, elected on two lists: one relating to the shares which are in the hands of foreigners and the other to the shares belonging to Bulgarian institutions or individuals. The foreigners who have 12,000 shares elect six members of the Management Council; the Bulgarians who hold 8,000 shares elect three. In addition, a fourth administrator is nominated by the Bulgarian Ministry of Finance. The Vice-president of the Council must be a Bulgarian. Provision is also made for a Supervisory Council, consisting of three censors appointed by the General meeting. The censors are present at meetings of the Management Council where they have the right to speak but not to vote.

The Bank issues, in accordance with the law of mortgage credit, and for a value equal to that of the long term mortgage engagements, mortgage bonds and notes carrying an annual interest and repayable by drawing of lots. These notes and bonds in gold leva or in foreign money may be negotiated, either in Bulgaria or abroad, provided however that the certificates to be issued before the loans are realised do not exceed 10,000,000 Swiss francs. The conditions of all issue of bonds and notes guaranteed by the State are submitted for approval to the Minister of Finance. The shares of the Mortgage Bank, sale proceeds, as well as any sum assigned to the shareholders when profits or reserves are divided, may be freely sent out of Bulgaria by shareholders or by persons interested notwithstanding laws or decrees existing or to be promulgated on the subject of exportation of capital.

In consequence of the economic crisis through which Bulgaria is passing, this share capital of 10,000,000 Swiss francs is so far only paid up in part. On the other hand, the intention has been to avoid as far as possible the issue of mortgage bonds from this new Bank, before placing on the world money market the consolidating loan for the issue of which Bulgaria received authorization from the League of Nations in September 1928. It was however realised that the activity of the

Bank would be very fruitful, and accordingly the promoters of powerful financial groups promised in June last to grant from the present date all the credits required for its further development. The Bank has been authorised by these groups only to repay these advances after the issue of mortgage bonds as prescribed in the rules, the placing of which on the foreign financial markets is already completely assured.

The property mortgaged at the Bank must be worth at least 5,000 gold leva (francs). The credits are only to be given against a first mortgage. If the property is already mortgaged, a part of a second mortgage loan must be employed to pay the former mortgage. The distribution of small agricultural credits will remain as before in the hands of the Bank of Agriculture which will also act as agent for the New Bank, since it has 97 branches and 64 agencies in all the chief towns and principal rural centres of Bulgaria. The rate of interest which will be required from customers of the Bank must not exceed by more than two and a half per cent. the rate of interest paid by the Bank to the holders of its bonds. Since the Bulgarian State has guaranteed an interest of 7 per cent. on the capital engaged in the Bank, the persons having received credits against mortgages will not have to pay more than $9\frac{1}{2}$ per cent. interest per year, while moreover in Bulgaria a rate of interest of 16 per cent. and more frequently has to be paid for mortgage loans.

The formation of the New Mortgage Bank thus affords a solution long needed of one of the most important questions in the economic life of Bulgaria.

M. T.

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AGRICULTURAL LEGISLATION

Recent Legislation on the Grading of Agricultural Products.

The lawyer either as legislator or as judge has from time immemorial been called upon to consider the quality of agricultural products forming the object of contracts of sale. With the growing complexity and extension of markets, which now transcend the boundaries of countries and even continents, a greater precision in the description and classification of products has become an absolute necessity. Where the purchaser is unable personally to examine the articles offered for sale he is forced more and more to rely on the guarantee of a trade mark. In many cases private marks of this kind tend to be superseded by an official mark given by the civil authorities of the exporting country certifying that the product exported can be described as coming up to a certain fixed standard. Further, producers themselves

have begun to realize the importance from the standpoint of future sales of keeping up the good name of their goods and of ensuring that they actually correspond to the standard claimed for them. A further step in this direction is the division under official supervision, of products into certain well-defined grades to which the vendor must when sending his product to market, strictly adhere and on which the purchaser can absolutely rely. This practice which arose in the great exporting countries such as the United States, Canada, Australia, etc. where it was applied to large staple products such as cotton and wheat is now beginning to be adopted by countries whose agricultural products are absorbed by the home market. Thus the English Parliament has, by the "Agricultural Produce (Grading and Marking) Act" of 3 August 1928 given powers to the Minister of Agriculture to make provisions for the establishment of grade designations. These Regulations are to contain a "statutory definition" of the quality indicated by every such grade designation. The Act also provides for the marking of all preserved eggs brought on the market, with the object of enabling the purchaser to distinguish between home and imported eggs. It is interesting to compare this piece of legislation, which as will be noted, only introduces so to speak the institution of grading, leaving the Ministry of put it into practice, with an Act of New South Wales of 29 January 1927, on the subject of wheat grading, which unlike the British law, enters into more precise details as to the fixing of the grades. Thus it provides (Sec. 3) for the appointment of a Wheat Commissioner, who shall be the Manager of the Government grain elevators for the time being. It also provides (Sec. 4) for a Wheat Standards Board, to consist of the Wheat Commissioner and four other members appointed by the Governor of whom one shall be a wheat miller, one a wheat exporter, and two wheat growers. The first duty of the Board is to report to the Minister "the number and names of grades of bulk wheat which it considers advisable to establish in New South Wales and the standards of such grades" (Sec. 5). This report must be presented by the Board not later than six months after its appointment. The grades recommended are to come into operation on a date fixed by the Governor, and may not be altered before the expiration of twelve months from the date of their proclamation in the *Official Gazette*. The actual work of grading is to be carried out by persons authorized by the Wheat Commissioner for this purpose; power is given to owners of graded wheat to appeal against the decision of these officers to a special Appeals Board consisting of the Wheat Commissioner and one of the representatives of the two growers on the Standards Board (Sec. 9). The main purpose of the Act which is to maintain the good reputation of New South Wales wheat, may be gathered from the provision that only wheat which has been graded can be accepted by the Government elevators for eventual shipment and exportation. As a result of this law scientific grading of wheat is substituted in New South Wales for the rather unsatisfactory guarantee of "Fair Average Quality" hitherto in force.

The fact that the English Act quoted above contemplates the home market whereas the New South Wales Act envisages the foreign market explains, perhaps, the particular attention given in the former Act to the effect of the use of a grade on the position of the purchaser. Sec. 2 of the English Act states that "where any person sells any agricultural produce to which a grade designation is applied, then notwithstanding any contract or notice to the contrary, it shall be deemed to be a term of the contract of sale that the quality of the article accords with the statutory definition indicated by the grade designation". The effect of thus construing the sale under a grade designation as "a term of the contract" is to discharge the purchaser from all obligations should the produce not come up to the requirements of the grade designation. The British law also stipulates that no person may, under

pain of heavy fine " mark any article, covering or label with a grade designation mark unless he is authorized to do so by or under regulations made under this Act " (Sec. 2). All Regulations made under the Act are (Sec. 6) to be laid before Parliament " as soon as may be after they are made ".

In many legislations provisions as to grading which, as remarked above is, in the large majority of cases introduced in order to gain for the product a high reputation on the market, often become merged in the wider subject of national marks of exportation. Thus the " Hemp Grading Regulations " enacted in New Zealand (6 June 1927) certain detailed provisions on the subject of packing, tags, brands, etc. as well as of grading proper. In this respect the Regulations present a marked difference from the law on wheat considered above. These differences arise from the fact that the New South Wales law deals with grading *in bulk* whereas New Zealand envisages exportation in individual bales bearing a registered brand of the particular mill where the phormium products originate from. A second difference in the two laws is due to the difference in their subject matter: Thus phormium products are not like wheat to be graded in elevators but in "grading stores". Sec. 5 of the Regulations gives a list of the grading stores appointed in New Zealand for "the examination and grading" of phormium products. Unlike the legislation considered above, the Regulations go in some detail into the actual grading operation. Two interesting features emerge from Sub-section 2 of Sec. 6 of the Regulations. These consist in the requirement in certain cases of a preliminary unofficial classification by the producer himself. The exact terms of the sub-section are as follows:— "Where there is any noticeable difference in the quality of the phormium products forwarded to an appointed grading stores in one lot and under one brand the owner shall submit such products in separate parcels of a uniform quality with a distinguishing mark on the canvas tag of each bale in each such parcel". This is to be followed by definitive grading by the proper grading officers who are guided in their task by precise provisions. Thus the different characteristics to be taken into account by them are set forth as well as the maximum number of points to be allotted to each. Further the Regulations establish the various grades and lay down the number of marks qualifying products to be included in each particular grade. These grades in the case of hemp, for instance, are eight in number and range from "Superior" and "Fine" which head the list to "Common" and "Rejected" which close it. A further disposition provides that no grader's certificate shall be issued in respect of "any hemp which in the grader's opinion has been so badly treated as to make it useless for the purpose of manufacture or for any other trade purpose". That the object of the Regulations, like that of most legislation on grading is to ensure that the standard of national products is adequately maintained on the foreign markets is evident from Sec. 26 of the Regulations which makes it an offence to export phormium products unless a grader's certificate has been issued in respect of them. Some minor modifications have been made in the Regulations by Amending Regulations dated 10 October 1928.

By making grading of all phormium products intended for exportation compulsory, the New Zealand legislation differs in an important particular from the system adopted in certain other countries for example Italy. In Italy the exportation of native products is supervised by a National Exportation Institute recently constituted for this purpose. By a law of 23 June 1927 the National Exportation Institute is expressly authorized to create a national Exportation Mark for fresh and dried fruits, for citrus fruits and for green vegetables. According to Art. 2 of the Law "the use of the mark is optional"; in other words the law unlike the New Zealand Hemp Regulations does not prohibit the exportation of products even though they are

not furnished with the national mark. At the same time the possibility of such prohibition is not actually excluded. for, according to Art. 15 of the Law, the Minister of National Economy may "in special contingencies or when necessary for defending the good name of Italian exported fruits prohibit the exportation of fruits not furnished with the national mark". In most other respects the two legislations however follow similar lines. Thus the Italian law also contains provisions as regards the packing and labelling of products, their inspection, charges for grading, penalties for offences, etc. In correspondence to the registered list of authorized exporters kept by the Italian Institute of Exportation the New Zealand Regulations establishes a list of registered owners' marks, while actual examination of the products which, in Italy, is done by a Commission presided over by the Director General of the National Institute of Exportation, is performed in New Zealand by various companies and boards recognized by the Government. One interesting divergence between the two legislations is presented by the question of appeals; whereas in New Zealand (Sec. 24 of the Regulations) the grader's decision is final, in Italy exporters can appeal to a special Committee presided over by the President of the technical committee of the Institute and composed of the Director General of Agriculture, of the General Director of Customs and a representative of the General Fascist Confederation of Traders.

Strictly speaking, the Italian law on the mark of Exportation does not in all cases necessarily imply grading in its narrower sense; but that the Exportation Institute also means to sub-divide authorized products into grades according to their quality may be gathered from the Decree-Law of 8 January 1928, No. 486, issued in virtue of the law on the determination of the various official types of rice intended for sale abroad. A complete table of these official types or grades are set forth in an appendix to the Decree-Law and the characteristics of each type are fully and precisely given in such a way that the grading may be performed by the exporter himself. Firms intending to make use of the national mark must notify the Institute of Exportation and state, among other particulars, the place or places where exportation is normally effected (Art. 3). They are also required to notify the time of arrival of each contingent so that it may be sampled by official inspectors acting on behalf of the Institute. A procès-verbal of such sample taking must be drawn up in three copies; the first is forwarded together with three samples, to the Control Bureau instituted by Art. 11 of the Decree-Law for checking the work of the inspectors; the second copy is forwarded to the exporting firm and the third to the customs authorities in the case of export by sea, or to the railway authorities for eventual forwarding to the frontier customs authorities, in the case of export over land. The proper working of the sampling service is ensured by the right given (Art. 9) to the exporting firm to have a representative present at the operation; by the above-mentioned Control Bureau which is responsible for the supervision of the individual inspectors and by the creation of a Commission of Revision for hearing appeals lodged by the exporting firms against alleged unfair grading. In the event of a consignment being definitively declared not to be up to standard the President of the Commission referred to above may order the customs authorities on the frontier to cancel the official denomination and the national exportation mark reproduced on the packing.

The Government in pursuance of the same law on the national mark, published on 18 April 1928 a Decree-Law on the exportation of citrus fruits abrogating the Ministerial Decree of 12 August 1927 on the same subject. It contains comprehensive rules on the qualities required of citrus fruits exported from the various

fruit growing districts of Italy before they can qualify for the exportation mark and gives precise directions as to labelling and packing.

* * *

SOURCES : *Great Britain*. Agricultural Produce (Grading and Marking) Act, 1928 3 August 1928 (18 & 19 Geo. 5. Ch. 19). *New South Wales*. Act No. 6, 1927. An Act to provide for the grading of wheat in bulk ; to regulate the handling of such wheat, and the operation of wheat elevators and of purposes connected therewith. 29 January 1927 (17 Geo. 5). *New Zealand*. Regulations as to the grading and export of New Zealand Hemp, and other Phormium products. 6 June 1927. (The New Zealand Gazette, No. 39, 9 June 1927). *New Zealand*. Amending Regulations governing the grading and export of New Zealand hemp and other phormium products. 1 October 1928. (The New Zealand Gazette No. 72, 4 October 1928). *Italy*, Law No. 1272 of 23 June 1927. Provisions concerning the institution of a national mark for orchard and garden products intended for abroad. (Gazzetta Ufficiale, No. 181, 6 August 1927). *Italy*. Ministerial Decree of 18 April 1928. Special technical rules for the exportation of citrous fruits. (Gazzetta Ufficiale, No. 94, 20 April 1928).

Summary of the New Laws and Regulations.

AUSTRALIA (QUEENSLAND). The Papaw Levy Regulations. 11 October 1928. *Queensland Government Gazette* No. 89 (13 October 1928).

The Committee of Direction of Fruit Marketing is empowered to make a levy on all papaws marketed between 9 October 1928 and 8 October 1929. The levy shall in the first instance be collected by agents and bodies which hold to the credit of papaw growers. Growers who sell their products directly are obliged to submit monthly statements of their sales and pay the amount due to the Committee of Direction of Fruit marketing.

* * * An Act to Amend " The Primary Producers' Organisation and Marketing Act of 1926 " and the Acts in certain particulars; and for other purposes. 19 Geo. V No. 8 (11 October, 1928). *Queensland Government Gazette*, No. 94 (19 October 1928).

The Act lays down that before an Order in Council shall be made declaring any particular commodity subject to the present law at least 50 % of the qualified voters must have actually exercised their right of vote. It also provides for a vote to be taken as to the desirability or not of continuing a Board constituted under the Act and whose term is expired, as well as the amalgamation of several Boards into one joint board. The exercise of undue influence over electors is made the subject of severe penalties. The law makes possible the extension of the provisions of the Primary Producers Organisation and Marketing Acts, 1923 to 1926 to fruit and the constitution of an apposite Board.

* * * An Act to Amend " the Stock Foods Act of 1919 " in certain particulars. 19 Geo. V No. 5 (4 October 1928) *Queensland Government Gazette*, No. 83 (11 October 1928).

This Act makes several minor amendments in " The Stock Foods Act of 1919 " the most important of which consists in giving the Governor in Council power to appoint inspectors and analysts and other officers necessary for giving effect to the Act. No officer may, on pain of disqualification for re-appointment, have any monetary interest, directly or indirectly, in the manufacture or sale of any stock food or in any trade or business connected therewith.

FRANCE. Arrêté constituant une commission chargée d'étudier les moyens propres à favoriser la production des agrumes d'Algérie. 14 décembre 1928. *Journal Officiel*, n. 297 (16 décembre 1928).

The Minister of Agriculture has, in consequence of a recommendation of the Delegation of Settlers and of the Plenary Assembly of the Financial Delegations of Algeria, instituted by this Decree at the Ministry of Agriculture a commission for studying suitable methods for the production of citrous fruits and early varieties in Algeria.

* * Arrêté relatif à la qualification des animaux de demi-sang. 27 décembre 1928. *Journal Officiel*, n. 309 (31 décembre 1928).

This Order supplements and completes Art. 3 of the Order of 30 January 1914 and lays down that the qualification "half-blood" may also be granted to mares imported from abroad if they obviously exhibit the characteristics of a "half-blood" animal and have a minimum index of compactness of 3.30, in other words if they weigh 3 kilograms per 20 centimetres of height. All doubtful animals are to be rejected. The weight of a pregnant mare shall never be taken as an index. The qualification "half-blood" shall also be given to the young of a mare qualified "half-blood" in France and born in France as the result of service outside French territory. In these two cases the administration may deliver a special certificate.

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[4ª Edición ampliada de la 3ª encargada por el Congreso nacional (Paraguay)].

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INTERNATIONAL REVIEW OF AGRICULTURE

PART II

MONTHLY BULLETIN

OF

AGRICULTURAL ECONOMICS AND SOCIOLOGY

FARM ECONOMICS

Results of Danish Farm Accounts in the Accounting year 1927-28 (I). Provisional Survey.

As in the two preceding years, the Bureau expects to receive about 700 farms accounts for the accounting year 1927-28. At the present time a little more than 300 of these accounts have been sent in, and this report comprises accounts from 200 farms which delivered accounts also for the year 1926-27 and the grouping of which will be almost proportionate to that of the total number of accounts.

The distribution of the 200 farms into size groups and the average area of each group are shown in Table I together with the corresponding figures for the total number of analyzed accounts in the year 1926-27.

TABLE I. — *Grouping of the Accounts According to Area.*

Size of farms (hectares)	The provisional survey 1927-28		All accounts 1926-27	
	Number of accounts	Average area, hectares (1)	Number of accounts	Average area, hectares (1)
Less than 10	37	5.5	139	5.8
10-50	110	27.8	409	28.1
50 or more	53	119.1	142	127.1
Total	200	47.8	690	44.0

(1) 1 hectare = 2.471 acres.

The group of farms with more than 50 hectares comprises a comparatively greater number of accounts in 1927-28 than in the former year and the average area is therefore higher for the 200 farms in 1927-28 than for all 690 farms in 1926-27, viz. 47.8 hectares as against 44.0 hectares.

Although the results of the 200 farms in 1926-27 coincide quite well with the results of all 690 farms, also with regard to the various groups, it must be supposed that accounts from the same 200 farms in both years will give the best basis of comparison and, therefore, the average figures for 1926-27 in the following tables refer only to the 200 farms from which accounts have been analyzed also in 1927-28.

(1) Information supplied by Bureau of Farm Management and Agricultural Economics. 21st Report.
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Agricultural capital. — Table II gives the figures per hectare for the agricultural capital at the beginning of the year. The figures are a little lower in 1927 than the year before — in average for all farms 2453 kroner per hectare as against 2639 in 1926 which is a decrease of 7 per cent., varying from 4 per cent. for the small holdings to 8 ½ per cent for the large farms. The figures for land and buildings have decreased by 7.3 per cent as a consequence of the new valuation of real estate in January 1927, while the working capital has decreased by 6.3 per cent. With regard to the working capital the proportional decrease has been particularly great for supplies — 25 per cent — which is due mainly to smaller stores of grain at the beginning of the accounting year.

TABLE II. — *Agricultural Capital in Kroner per Hectare.*

Size of farms (hectares)	Land and buildings	Working capital				Total agricultural capital	
		Livestock	Implements, machines	Supplies	Total	1927	1926
Less than 10	2419	552	328	19	899	3318	3458
10-50	1776	385	186	27	598	2374	2574
50 or more	1592	275	119	28	422	2014	2202
All 200 farms 1927 . .	1846	387	194	28	607	2453	—
„ „ „ 1926 . .	1991	411	202	35	648	—	2639

At the same time the value of implements and machinery has decreased by 4 per cent. and the value of livestock by 6 per cent. For cattle the value is practically the same as the year before, but the value of horses has decreased by 13 per cent which is a little more than the decline of valuation prices and, consequently, the number of horses must have been reduced a little. The number of pigs has been increased by about 20 per cent. but owing to a decline of valuation prices of about 25 per cent. from 1926 to 1927 the value has nevertheless decreased by 9 per cent.

The agricultural capital estimated at sale value is however about 20 per cent. higher than the capital booked, while in 1926-27 the difference was about 25 per cent. If the booked value of land and buildings had not been reduced by 7 per cent. owing to the new valuation mentioned above, the sale value would in spring 1927 have been only 13 per cent. higher than the booked value of agricultural capital.

Gross returns. — The harvest yield of grain in 1927, was, according to the official statistics, about the same as the year before, but it was somewhat more varying in the different parts of the country. The yield of root crops has however decreased considerably, about 14 per cent. for roots, 22 per cent. for sugar beets, and even 26 per cent. for potatoes.

TABLE III. — *Gross Returns in Kroner per Hectare.*

Size of farm (hectares)	Products from					Total 1927-28	Total 1926-27
	Crops	Cattle	Swine	Other animals	Sundries		
Less than 10	30	592	434	115	61	1232	1219
10-50	59	361	246	34	31	731	706
50 or more	125	239	127	14	18	523	505
All 200 farms 1927-28 .	71	372	250	42	33	768	—
„ „ „ 1926-27 . .	71	349	251	42	35	—	748

It can be seen from Table III that the gross returns have increased from 1926-27 to 1927-28 by 20 kroner per hectare on the average for all 200 farms which is 2.7 per cent. For the small holdings the increase has been only 1 per cent. owing to the comparatively large stocks of swine, as the decline of bacon prices has completely neutralized the effects of the increased production. For the medium sized and large farms the gross returns have increased by 3.5 per cent.

The average increase of the gross returns is due only to the milk production, the value of which has been raised by 23 kroner per hectare, while the gross returns for swine and sundries have declined by one or two kroner per hectare. With regard to the crops the gross returns have been equal in both years because the high prices of grain have eliminated the effects of the bad yield of sugar beets and potatoes.

Working costs. — Table IV shows that on the average for all farms the working costs have increased from 713 kroner per hectare in 1926-27 to 723 kroner in 1927-1928 which is 1.4 per cent, and the increase is greatest in the small holdings where it amounts to 2.9 per cent.

TABLE IV. — *Working Costs in Kroner per Hectare.*

Size of farms (hectares)	Labour	Concen- trates	Artificial manures	Other purchases	Other costs	Total 1927-28	Total 1926-27
Less than 10	435	436	30	114	163	1178	1145
10-50	254	290	29	70	122	684	677
50 or more	193	116	34	47	98	488	484
All 200 farms 1927-28 .	271	226	30	73	123	723	—
" " " 1926-27 .	290	174	37	71	141	—	713

The increase of the working costs is caused by the cost of concentrated fodder which is about 30 per cent. higher than last year, while the labour costs have decreased by about 6 ½ per cent., artificial manures by about 19 per cent. and "other costs" by nearly 13 per cent. The heavy increase of the cost of concentrates is due partly to a rise of prices of about 12 per cent. and partly to larger purchases for the increased stock of swine and, to a certain extent, also for cattle. The labour costs have not decreased quite so much as have the wages; but there is no great difference. The cost of artificial manures has decreased a little more than prices, which suggests a smaller use than the year before. The decrease of "other costs" is due to an almost equal decline of a number of costs, such as rates and taxes, insurances, and annual repairing costs of buildings and machinery.

Results. — The gross returns have increased a little more than the working costs and the average increase of the net returns is therefore a little higher than the year before. Table V gives a survey of the net returns in kroner per hectare and in percentage of agricultural capital.

The average increase of the net returns is 10 kroner per hectare, and in per cent. of the booked value of agricultural capital the net returns amount to 1.8 per cent. in 1927-28 as against 1.3 per cent. in 1926-27. It is the large farms and particularly the farms of 10-50 hectares which show a quite good increase of the net returns, while for the small holdings the net returns have decreased by 20 kroner per hectare, mainly as a consequence of the low bacon prices which have hit the small holdings especially hard.

As mentioned before, the sale value is somewhat higher than the booked value of agricultural capital, and in per cent. of the sale value the net returns amount to 1.5 per cent. in 1927-28 as against 1.1 per cent. in 1926-27.

The last two columns of Table V show how much the farms have been able to pay

TABLE 5. — *Complete Summary of the Financial Result.*

Size of farms (hectares)	Kroner per hectare			Net returns 1927-28		Net returns 1926-27		Actual labour earnings of the family	
	Agric. capital	Gross returns	Work- in costs	Kroner per hectare	In % of agric. capital	Kroner per hectare	In % of agric. capital	Kroner per hectare 1927-28	Kroner per hectare 1926-27
Less than 10	3818	1232	1178	54	1.6	74	2.1	261	297
10-50	2374	731	684	47	2.0	29	1.1	46	23
50 or more	2014	523	488	35	1.7	21	1.0	÷ 17	÷ 36
All 200 farms: 1927-28	2453	768	723	45	1.8	—	—	69	—
" " " 1926-27	2639	748	718	—	—	35	1.3	—	58

the family as remuneration for labour performed when all other expenses are paid and 5 per cent. interest on the capital. On the average for all farms the labour earnings of the family amount to 69 kroner per hectare or about half the calculated normal remuneration. The labour earnings have been highest in the group of less than 10 hectares, amounting here to 1,436 kroner per farm, while for the group of 10-50 hectares it is 1,279 kroner per farm, and for farms of 50 hectares or more there have been no labour earnings but even a deficiency of 2,025 kroner per farm when 5 per cent. interest has to be paid on the capital. In 1926-27 the labour earnings amounted to 1,634 kroner per farm for the small holdings, 639 kroner for the medium-sized farms and the deficiency for the large farms was 4,288 kroner. A comparison of the figures for the two years shows a considerable progress both for the large and the medium-sized farms while in the small holdings the labour earnings have declined by about 200 kroner per farm. In 1927-28 the labour earnings for this group are 30 per cent. below normal remuneration, corresponding to the amount which the family could have earned during the year if working for the same number of hours in other farms at the going wage. In 1926-27 the labour earnings were 25 per cent. below normal remuneration for the same group of farms.

Profit Earning Capacity of Swiss Agriculture.

The special Section for collecting returns of earning capacity (*Abteilung für Rentabilitätshebungen*) of the Swiss Peasants' Secretariate publishes, in its report for 1926-27 to the Federal Economic Department, farm accounting results for 473 farms. The farms are distributed all over Switzerland although certain Alpine districts are somewhat scantily represented.

The report is prefaced by a brief account of the principal natural and economic factors, meteorological conditions, crop pests, normal crop yields including milk production, position as regards epidemics, trade in agricultural requisites and products with other countries, price relations, rate of interest, and economic and political factors. On this follows a grouping of the farms according to altitude and distance from the railway.

Among the most interesting and important items are undoubtedly the production costs and their analysis.

A slight decline in production costs is to be noted on the general average. The changed position of the items is of especial interest. Depreciations show a marked increase which must almost exclusively be attributed to further depreciation in capital represented by live stock. (The prices of slaughter cattle are falling). The

TABLE I. — *Production costs per hectare under cultivation in Switzerland* (in francs).

Size-groups	Farms of 2.5 hectares					Farms of 5-10 ha.					Farms of 10-15 ha.					Farms of 15-30 ha.					Farms of over 30 ha.					Average of all farms.				
	Year					Index					Index					Index					Index					Index				
	1925	1926	1925	1926	1926	1925	1926	1925	1926	1926	1925	1926	1925	1926	1926	1925	1926	1925	1926	1926	1925	1926	1925	1926	1925	1926	1925	1926	1925	1926
Number of farm accounts closed.					(1925/1926)	24					24					24					24					24				
1. Capital written off					156	181.33					191					184					184					184				
including capital in livestock					59.00	95.17					201					230					230					230				
2. Unexhausted cultivation values					1.48	1.30					78					111					111					111				
3. Decrease in value of stock in store etc.					39.77	36.73					115					115					115					115				
4. Farm costs, including additional purchases of stock feeds					432.43	382.72					124					125					132					132				
5. Bank account					161.60	125.79					107					112					127					127				
6. Interest charges on capital engaged					3.19	523.12					3.19					0.66					0.66					0.66				
7. Labour cost					508.41	523.01					132					393.89					132					132				
including family labour reward %					966.34	927.29					134					657.63					125					125				
Total production costs					91	80					78					70					72					72				
2. 127.97 2,077.62					135	1,532.74 1,541.33					131					131					131					131				

TABLE II. — *Gross Return per hectare under cultivation in Switzerland* (in francs).

Size-groups	Farms of 2.5 ha.					Farms of 5-10 ha.					Farms of 10-15 ha.					Farms of 15-30 ha.					Farms of over 30 ha.					Average of all farms				
	Year					Index					Index					Index					Index					Index				
	1925	1926	1925	1926	1926	1925	1926	1925	1926	1926	1925	1926	1925	1926	1926	1925	1926	1925	1926	1926	1925	1926	1925	1926	1925	1926	1925	1926	1925	1926
Number of farm accounts closed					(1925/1926)	24					24					24					24					24				
1. Increased value of stock in store.					36.43	33.90					81					20.83					22.30					22.30				
2. Unexhausted cultivation values.					1.76	0.75					20					0.79					0.79					0.79				
3. Gross returns including sales accounts					1719.84	1574.82					117					107					107					107				
Gross return of fruit growing					156.32	101.07					79					113.31					113.31					113.31				
Gross return of vine-growing					101.60	124.63					107					105					105					105				
Gross return of cattle breeding					147.83	232.21					404					36.98					68.72					68.72				
Herd increase and fattened beasts.					280.15	236.12					88					288.78					238.23					238.23				
Milk					514.17	434.98					110					461.72					411.22					411.22				
Gross return of pig-breeding					171.70	136.65					96					90.06					105.77					105.77				
4. Bank account					1.08	2.42					212					1.31					1.35					1.35				
Total gross return					1759.11	1611.39					116					1311.35					1250.27					1250.27				
Market production expressed as percentage					67	69					77					76					82					82				
Total gross return					114	1,580.01 1,580.32					110					94.78					94.78					94.78				

farm costs followed the opposite trend, an important item, the purchase of stock-feeds, being a determining factor. The savings which are effected on costs of the majority of the primary products to be transformed do not count for much in the farm economy, if at the same time the ruling costs have remained the same or have risen. The fall that is to be observed in labour costs must be regarded as a factor of interest, as involving the possibility that the part payment of labour in kind may have to be given up on account of the change in the price situation. The costs of buildings and implements have a tendency to rise. In view of this fact it is of interest that nearly 48 per cent. of the farms under review have current accounts at banks. The character of the Swiss farms — as properly speaking family undertakings — is seen in the high proportion of the family labour shown in the labour costs.

The cash value of products is reckoned in the accounts at the moment either of placing on the market or of bringing into use for home consumption, or finally when they become available as marketable commodities and is reckoned as gross return.

The gross return has fallen by about 80 francs per hectare. This diminution is due primarily to the fall in prices of live stock products (slaughter cattle, milk) which is clear from the striking decrease in the gross return under this head. In the case of the slight decrease in the returns from field crops, it is primarily a question of poorer harvests. The most satisfactory returns were from fruit-growing and vine-growing which in both cases have exceeded those of the previous years. As factors in the gross returns these items are however of much less importance than the stockbreeding so that the reduction in this last return is only very partially compensated for. From the percentages expressing the proportion of market production it will be seen that even on the smallest farms 65 to 70 per cent. of the gross return is marketed.

The difference between the gross return and the production costs (not including the interest charges) gives the net return which has to cover the payment of interest on invested capital. The net return has fallen by about 60 francs as compared with the previous year and the following table gives an idea of the component factors:

TABLE III. — *Factors which contributed to the Diminution in the Net Return.*

Variation in production costs of 1926 as compared with previous year (— = reduction + = addition)			Variation in gross return as compared with the previous year		
francs per ha.			francs per ha.		
Capital written off . . .	+	33.68	Increased value of stocks		
Incl. livestock capital . .	—	0.44	in store	—	6.41
Decrease in value of			Sales of cereals	—	9.02
stocks in store	—	2.55	Sales of potatoes	—	6.53
Farm costs	—	35.65	Fruit-growing	+	33.45
Bank account	—	0.24	Vine-growing	+	22.50
Interest charges	+	3.00	Forestry	—	4.41
			Herd increase	—	41.06
Labour costs	—	18.94	Milk	—	49.60
Production costs	—	16.04	Horse-breeding	—	6.37
Interest charges	+	3.00	Pig-breeding	+	1.36
Net return	—	60.65	Bee-keeping	—	9.73
			Miscellaneous	—	3.87
Gross return	—	79.69	Gross return	—	79.69

The comparatively large fall in the gross return inevitably brought about the reduction in the net return.

The income which indicates what interest the capital engaged is paying has been unfavourably affected by the smaller net return and the increase in the capital invested. The following summary gives the comparative figures for the pre-war period and also for the previous year.

TABLE IV. — *Net Return in Percentage of the Capital Engaged.*

Year	Farms of 2.5 ha.	Farms of 5-10 ha.	Farms of 10-15 ha.	Farms of 15-30 ha.	Farms of over 30 ha.	Average for year
	%	%	%	%	%	%
1912	3.23	4.09	4.65	5.01	5.79	4.67
1913	0.99	1.82	2.32	2.98	2.67	2.34
1925	1.40	1.85	2.58	3.03	1.54	2.33
1926	0.69	1.00	1.53	2.11	2.15	1.70

The present position as to earning capacity reveals a real crisis in agriculture. The rate of interest has now fallen below the pre-war rate. This fact is easily intelligible, if it is noted that the index for production cost is 70 per cent. above the level of 1911-13, while the price-index for agricultural products stands at only 48 per cent. above the 1911-13 position. The estimated index-numbers shown on Tables I and II are very instructive in this connection, as they show plainly the relatively large decreases in the gross return and in production costs. The following table gives a clear indication of the deviations expressed proportionately.

TABLE V. — *Deviations of the Gross Return from the Production Costs.*

Production Costs 1926				Gross Return					
Expenditure groups	Index 1908/ 1924 = 100	Deviation as compared with the total index of the production costs (— less + more)	Proportion of the exp. group to the production costs of 1924 expressed as %	Components of gross return	Index 1908/ 1924 = 100	Deviation as compared with the index of the total gross return (— less + more)	Proportion of the component to the total gross return expressed as %		
			%				%		
1. Depreciations or Capital written off	186	+	55	12.03	1. Increase in stocks in store	72	— 35	1.87	
capital in livestock (in- cluded in above)	241	+	110	6.24	2. Unexhausted cultivation values	16	— 91	0.02	
2. Unexhausted cultivation values	81	—	50	0.08	3. Gross returns	108	+	1	98.02
3. Decrease in value of stocks in store	109	—	22	1.85	incl. Sales accounts	89	—	18	8.53
4. Farm costs, (including purchase of stock feeds)	128	—	3	21.13	Fruit-growing	108	+	1	9.06
5. Bank account	1.7	—	14	6.99	Vine-growing	193	+	86	4.55
6. Interest charges on capital engaged	51	—	80	0.04	Stock-breeding : herd increase	91	—	16	17.35
7. Labour cost	128	—	8	24.34	milk	114	+	7	35.24
Total index of the production costs	181	—	100		Pig-breeding	112	+	5	9.10
					4. Bank account	83	—	24	0.09
					Total index				
					Gross return	107	—	100	
					Net return	35	—	—	

The importance of the separate index-numbers in the total quantities is made evident by the percentages which are annexed. The pressure of costs appears in the increase in the depreciations and in the continual falling off in purchases of stock feeds, while in the gross returns the herd increase shows the most serious decline. In the index of the net return a still more serious decline is to be observed, being the result of the dissimilar falls in the gross return and in the production costs; expressed as a ratio of the 1908-24 index it still only amounted in 1926 to 35 per cent.

The preceding price-indexes are therefore of interest as properly speaking they represent the product of the two factors, crop yield (or consumption) and prices.

A calculation of the production costs according to the unit method shows that under the same production conditions the prices commanded would have to be 14.5 per cent. higher to cover all outgoings.

The report further supplies information on the more subjective results connected with the private economy of the farm undertaking, such as agricultural income, return on capital invested by the farmer in the farm, and remuneration of the labour of the farmer and farming family.

	Return on the capital invested by the farmer in the farm expressed as percentage of such capital	Labour remuneration per man-work day	Agricultural income including house-keeping income per farm
1925.	0.24	3.95	5399
1926.	— 1.18	2.35	4511

Interest on the capital which the farmer has put into the farm disappears; the net return is not even sufficient to provide interest on borrowed capital, so that the farmer must either pay it out of the return from his own labour or from reserves.

The term management wage covers the true reward of work coming to the farmer from the farm enterprise. This remuneration is so small, that at the present time the Swiss farmer is the worst paid of all wage earners. At first sight the income seems to be reasonably adequate, but it must be remembered that it has to be divided among approximately 2.3 man units.

* *

The economic position of Swiss agriculture has become more acute in the course of the year under report. The decline in the gross return is mainly conditioned by the crisis in prices, especially as regards stock-breeding. The cutting down of the farm requisites shows a tendency to economy, but this was confined to purchases of raw materials and transformed materials such as stockfeeds while the regular costs have rather expanded.

The net return provides interest on the capital engaged at a rate which is well under the bank rate, the labour return is inadequate and the farming capital no longer yields any interest. Improvement of the conditions depends primarily on the price development of the livestock products.

W. B.

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Untersuchungen betreffend die Rentabilität der schweizerischen Landwirtschaft im Erntejahr 1926-27 (1. März 1926 bis 28. Febr. 1927). Bericht des schweizerischen Bauernsekretariates an das Volkswirtschaftsdepartement I. Teil. — Landw. Jahrbuch der Schweiz. Heft 2, 1928.

COOPERATION AND ASSOCIATION

Organisation and Activity of the Swiss Peasant' Union.

The foundation of the Swiss Peasants' Union in 1897 was a consequence of the severe agricultural crisis of the second half of the nineteenth century. The development of world trade at that time brought with it the powerful competition of

foreign producing countries and very severely affected the Swiss home market for agricultural products. Industry, trade and business, which were already organised, succeeded in establishing their position with the help of the customs agreements made at that time, and the crisis was diverted on to primary production, the products of which were moreover most affected by the competition. The resources of agriculture were still unorganised and carried no economic weight.

The Peasants' Union which had very slender resources on first coming into existence has in the course of three decades become an imposing organisation with 65 associate members (experts, etc).

Establishment of the Peasants' Union and Place in Agricultural Practice. — The majority of farmers are members of one or another local farming union; these unite into regional in the first instance and then into cantonal or intercantonal federations, specialised for the various types of activity. From these leading organisations is formed the Swiss Peasants' Union, each federation making a contribution to the Union, in proportion to its membership. Besides membership through an organisation, individuals or groups of persons may join the Federation as associate members (*unterstützende Mitglieder*) engaging to contribute a fixed minimum sum every year. Active contact with practical farming is maintained through the reliable agents (*Vertrauensmänner*), there being one at least in every commune. These men diffuse the ideas of the Union and keep it informed of the needs and problems of the farmers in their own surroundings. The special sections have each a special staff of farmers with whom they are in permanent touch. These include accountants and market price correspondents.

The highest body of the Federation is the assembly of delegates which consists of the delegates of the constituent federations already mentioned. Members making voluntary contributions are represented at the assembly through the adhering organisations; they may in addition submit resolutions on their own initiative to the assembly. The assembly elects the large Committee of the Federation, consisting at present of 80 members, which in its turn appoints the management committee with its eleven members, and the Secretariate, and has the primary duty of defining the position in regard to the great questions of the joint policy and in particular the economic policy. The management Committee supervises the conduct of affairs. The executive organ is the Peasants' Secretariate presided over by the Secretary and the Director of the Peasants' Union, who are supported by the heads of the separate sections with their collaborators.

The method of financing the Peasants' Union is of much interest. The following table gives information on the sources of income and the main heads of expenditure the last year under review:

Receipts	fr.	Expenditure	fr.
Members' subscriptions .	20,807.45	Salaries, wages, etc.	381,836.55
Voluntary contributions .	131,221.50	Equipment	225,122.97
Subsidies	75,000 —	Balance	18,743.74
Interest from special funds	25,158.03		
Revenue from commissions and from publications, etc.	364,639.53		
Extraordinary receipts .	8,786.76		
Total . . .	625,703.26		625,703.26

Distribution of the expenditure among the main heads.

Peasants' Union and Secretariate	156,526.69
Building Advisory Office	204,614.58
Farm Accountancy Offices	73,321.95
Market reports	88,849.90
Valuation Office	51,545.05
Publication of the " Bauernzeitung "	32,101.35
	606,959.29
Excess receipts	18,743.74
	625,703.26

The main sources of income are the commissions and the publications, a fact which is a sure proof of the capacity of the collaborators; work of this kind is also one of the best means of diffusing the ideas of the Peasants' Union. The voluntary contributions form the larger part of the contributions in the proper sense, from which it may be concluded that practical farmers have great confidence in the Peasants' Union. As with similar departments in other occupational unions, the Peasants' Secretariate draws a State subsidy, and the accountancy office receives an allowance. The item " Bauernzeitung " refers to the fly-leaf sent every month to the agricultural papers for circulation, which defines the position of the Union in regard to the main problems of agriculture.

The attention of the Union or of the Secretariate is primarily engaged with the problems which arise in the course of economic life, *e. g.*, the position with regard to any revision of terms of constitution and laws or to new legislative proposals, taxation and finance policy, customs policy, questions of agricultural technique, transport and tariff systems, commercial treaties, police regulation of epidemics, organisation of the marketing of agricultural products, the formation of trusts, official statistics on social problems, participation in international organisations and activities, professional training, etc. The Union was able in the course of the year to secure representation on the Committees and Boards of Directors of State, semi-official and private corporations and organisations, so that expression of views on important happenings in political and economic life becomes possible.

In addition to this general activity, special sections carry on work, on a programme of work more or less circumscribed.

The principal function of the first and earliest of these, the *Division for Farm Accountancy Returns (Rentabilitätshebungen)* consists in the research and presentation of the economic situation of agriculture. This section makes use of agricultural book-keeping, the main importance attaching to book-keeping by single entry, on which system there are about 500 accounts closed each year, while the five accounts closed on the double entry system enable calculations to be made of detailed costs and returns. The statistics of accountancy results furnish primarily abundant material for economic and agrarian policy, for questions of taxation, customs and valuation; finally these figures provide valuable material for farm economic instruction in the agricultural schools. In addition to these returns there are returns for certain special branches of agriculture, *e. g.*, in the last farming year 87 bee-keeping accounts, 77 poultry accounts and 153 accounting schedules for wine-growing. The object of the so-called reports on earning capacity is to keep the State and the general public informed on the economic position of primary production. If,

for example, the figures in recent years are proof of a financial crisis it becomes the business of the State, in so far as it recognises the necessity to maintain agriculture, to take all measures which lie within its power to effect an improvement of conditions. For those engaged in farming, agricultural book-keeping supplies data for placing the business on a sound basis from within. The objection that the publication of the low figures of agricultural returns encourages a rural exodus, has been shown by experience to be groundless.

The accountancy office is finally also the centre for conference and for propaganda work in connection with farm accountancy.

A second special section the work of which depends on the preliminary work and the existence of the section described above is the Valuation Office (*Schätzungsamt*). Here is carried on estimation for practical purposes of the accountancy statistics. On the initiative of the Peasants' Union, it has been possible to insert the article in the new Civil Code, that as a principle for rural inheritance the taking over the farm by a single individual at the value of the return is enough. The main work of the Valuation Office consists in the valuation of items of inheritance according to the value of the return; in this connection are held consultations, valuations for transfer of leases, sales and purchases of estates, expropriations, conveyancing, etc. Up to the present date about 2,400 such operations have been effected.

A rural estate agency and a registry office (*Güter- und Praktikantenvermittlungsstelle*) are attached. The first is intended to exercise a certain control over business in estates and to protect the buyer against overcharge; the registry office confines itself to finding positions for young Swiss who want to go into a foreign country to complete their studies, or for young foreigners who wish to do the same in Switzerland.

The Market Reports Bureau (*Preisberichtsstelle*) also exercises an extraordinarily important function. In view of the fact that the farmer normally takes little account of price conditions and price formation and therefore is at a disadvantage with the buyer as regards his products, a speedy service of price information has been organised. For the purpose use is made of the agricultural market fly-leaf which is sent to special papers 95,000 copies being printed in German and 27,000 copies in French. Price information is obtained from about 9000 reporting centres in the whole country which send continuous notifications of the price situation on reply forms. The Market Reports Bureau deals also with the factors determining price formation.

Another section is known as the Sick and Accident Insurance Information Bureau (*Auskunftsstelle für Kranken- und Unfallversicherung*). In view of the multiplicity of these social organisations and of the legal limitation of employers' liability in agriculture, this Section has become an advisory bureau for technical questions of insurance.

The money market in Switzerland is characterised by a certain sensitiveness in the rate of interest, and a preference for short term paper investments. Hence it comes about that there is not enough cheap money available for agricultural credit and also the price of credit on pledge of land is subject to relatively frequent fluctuations. The *Division for Credit Questions* (*Kreditfragen*) is mainly occupied with obtaining information on the credit market. It also endeavours to arrange that in giving credit regard shall be had to the special character of the agricultural undertaking. In addition the Bureau carries on propaganda for such co-operative organisations as are prepared to supply the farmer with the ready money of the rural population.

In consequence of the high expenditure of Swiss agriculture on buildings, *

the Peasants' Union has founded a *Building Advisory Office (Bauberatungsstelle)*, which has grown to be the largest section. This institution either drafts the plans for buildings or undertakes the direction of building for agricultural purposes. The endeavour is to secure a suitable utilisation of the available funds in respect of scientific and hygienic building methods, choice of material, etc., with some regard also for a rural style of architecture in harmony with the surroundings. It has already proved necessary to establish branch offices in different regions and about 1,100 orders are handled yearly on an average.

The *Agricultural Machine Advisory Office (Maschinenberatungsstelle)* works on similar lines.

In connection with machines the Peasants' Union has in the last few years set up an independent organisation on a co-operative basis, the objects being to supervise the supply of agricultural machines and appliances, and to institute efficiency tests, thereby protecting buyers from acquiring unserviceable machinery.

A sum of money accruing from the liquidation of a State organisation, and increased by the capital of a company, has been applied by the Peasants' Union to the founding of an institution the function of which is to take up guarantees for loans in the second or third instance for former farm servants or sons of small farmers when they need credit for setting up farming on their own account. It is intended to make it possible to ensure an independent position to farm servants who have given long service.

To sum up it may be affirmed that the activity of the Peasants' Union has developed in an extraordinarily varied manner and has been most fruitful. There has been scarcely any important problem of Swiss politics, economy and agriculture in regard to which the Peasants' Union has not defined its position and to which it has not given full consideration. The Union itself is increasingly called upon by the authorities for expert opinion. As proof of its active publicity work it may be noted that up to the present nearly 100 issues of proceedings of the Union have appeared, and in these are not included the numerous contributions to the public press.

W. B.

Dreissigster Jahresbericht des leitenden Ausschusses des schweizerischen Bauernverbandes und des schweizerischen Bauernsekretariates 1927. Mitteilungen des schweizerischen Bauernsekretariates, No 89. Brugg, 1928.

L'Union suisse des paysans; sa création, son organisation, son activité, ses succès. Brugg, 1920.

ECONOMIC AND SOCIAL CONDITIONS OF THE AGRICULTURAL CLASSES

Some Aspects of the Problem of the Rural Exodus.

A number of replies have recently been received to a questionnaire issued by the Institute on the facts, causes, dangers and remedies of the "rural exodus", as observed in certain European countries and in the United States of America. It is proposed here to discuss some of the more striking points that are brought forward.

The figures supplied are not strictly comparable as they refer to different periods, as well as to countries that differ widely in conditions. In many cases no figures are supplied.

A valuable distinction is made in the German statistics as supplied by Prof. Derlitzki and Dr. von Lindequist between the population of rural communes (under

2000 inhabitants) and the population actually engaged in agriculture (including members of families).

For the rural population, *i. e.*, all persons living in communes with less than 2000 inhabitants) the figures are :

	Total population of Germany at date	Rural population expressed as percentage
1871	41,100,000	63.9
1875	42,700,000	61
1890	49,400,000	57.3
1900	56,400,000	45.75
1910	64,900,000	38
1925	62,400,000	35.6

For the agricultural population, calculated on the basis of the territorial area of Germany in 1925:

	Population of Germany	Agricultural population expressed as percentage
1882	39,800,000	40
1895	45,900,000	33.6
1907	55,000,000	27.1
1925	62,400,000	23

In France the statistics relate only to 1846 and 1921, the proportion of the rural population for 1921 being given as 53 per cent. of the total as compared with 76 per cent. at the earlier epoch. In Czechoslovakia there has been between 1910 and 1921 a decrease of 5.6 per cent. in the number of persons in agricultural occupations and one of 20.2 per cent. in those actively engaged in farming. As the Ministry of Agriculture remarks, Czechoslovakia had no separate existence in 1910 and the figures are not comparable. In Hungary in 1900, 57 per cent. of the population lived in the country, in 1910 the percentage was 52.8 and in 1920 it was 51.3, the relative increases in the town and country populations during that time being as 2 to 1. In Esthonia for the five years up to 1922 a rural migration of 28,368 into the towns is reported out of 1,107,050 total population.

In Bulgaria, which is of course a pre-eminently agricultural country, the proportion of the rural population has remained nearly stationary in the period 1900 to 1926 at 80 per cent., the 1926 figure being 79.30 per cent. In Finland the proportion has fallen from 87.5 per cent. to 82.1 between 1900 and 1926.

In the United States the Bureau of Agricultural Economics of the U. S. Department of Agriculture reports in February 1928 that the movement of population from farms to cities is proceeding but at a less rapid rate than in previous years, and that there is an *increased movement from cities to farms*. The figures for 1925 to 1927 are as follows :

	From farm to cities	From cities to farms
1925	1,900,000	1,066,000
1926	2,155,000	1,135,000
1927	1,978,000	1,374,000

The net reduction in the farm population, taking into account also the excess of births over deaths, was at the end of 1927, a decrease of 193,000 persons, as compared with a decrease of 649,000 in 1926 and 441,000 in 1925.

The dangers which have been anticipated from any continuous increase in the rural exodus are of two kinds: decline in agricultural production and disturbance of social equilibrium. The latter phrase summarises highly complex social phenomena which may arise out of a multiplicity of conditions of which the rural migration is probably only a symptom. Some of the questions here involved will be treated later. As regards decline in production some significance must attach to the tendency which is reported (by Dr. von Lindequist and Prof. Seedorf) for intensive to give way at present to extensive cultivation in Germany owing to shortage of labour. But at the same time the statistics show that both in Germany and in Europe generally there is a gradual but steady recovery of production (cereals, potatoes, sugar beet, wine) during the four years 1924-27, towards pre-war figures. *The actual number of workers on the land is certainly not a main factor in modern agricultural production* (1). Taking an extreme case, it has recently been shown that whereas the agricultural population of U. S. A. is only 29,000,000 while in China it is estimated at about 350,000,000, the area actually harvested in the States is 150,000,000 hectares while in China it is 73,000,000 hectares, or roughly 5.2 hectares are cultivated per agricultural inhabitant as compared with 0.21 hectares. A further comparison shows that whereas in China one unit of labour will feed at most from 2 to 2.5 persons, the farmer in the U. S. A. produces enough to feed nine persons in the States and one abroad. There is here involved of course the question of the use of farm machinery, to which reference will later be made.

The rural exodus is in fact an effect of certain economic and other conditions and not a cause. The decline of the proportion of population engaged in agriculture has always been a phenomenon occurring in progressive countries in progressive times.

Accepting the rural exodus as a fact, we may note that students of the phenomenon are generally agreed that the causes fall into two groups: (a) economic, and (b) social, including psychological, causes. Stress may be laid on one or the other group by different authorities on the subject, but as a rule the existence of both is admitted.

(a) Among economic causes, the one which appears to be the determinant of all the others is the low remuneration of capital, whether borrowed or owned by the farmer himself, in agriculture. Dr. von Lindequist states that in Germany "the farmer's own capital, which is at least 25 per cent. of the total capital engaged, as a rule earns no interest; at present none can be relied upon". the same fact emerges from a study of Swiss farm profit capacity published by the Swiss Peasants' Secretariate in 1927 who add that even the management wage is so small that the Swiss farmer is the worst paid of all wage earners in the country. Capital invested in agriculture in Switzerland earns from 3 to 4 per cent. while that invested in industry earns 7 per cent. Prof. Seedorf gives figures showing that in Germany in 1926 out of 709 industrial undertakings examined 304 realised a dividend of from 5 to 10 per cent. and 80 realised from 10 to 15 %, and 16 as much as 15-20 %, whereas out of 2600 farm undertakings 41 per cent. closed accounts with a loss and the others only showed insignificant returns. In Austria interest on capital engaged in agriculture is 1.2 to 3.5 % : in industry or trade 5.5 to 12 %. In

(1) "Density of population upon the land is not of itself to be desired" (Sir Daniel Hall).

Hungary interest on trade and industry is reckoned at 8 to 15 %, in agriculture 2 to 5 %. In Sweden, capital invested in trade or industry may be reckoned to bring in from 6 to 7 %, in agriculture the average was 2.8 % in 1925-26 rising to 3.9 for the wheat and sugar-beet region of South Sweden (1). In Latvia for the last five years the return on capital invested in agriculture has been at most from 2 to 3 %.

The inevitable consequence of the low rate of remuneration of capital is discouragement of the farmer himself and under-capitalisation, *i. e.*, outside capital is not attracted. This under-capitalisation has the normal effect of starving the industry, restricting activity, and lessening demand for labour, in other words of stagnation and adherence to unprogressive methods.

It can scarcely be too strongly emphasised that success in modern agriculture depends, as does success in any industry, on power to obtain capital with capacity to employ it scientifically, always with due regard to marketing conditions. If the farmer is to profit by the ever accumulating scientific and technical knowledge now constantly pressed upon his notice, he must be in a position to make certain outlays. For example, of what use is to urge the advantages of intensive grass-land cultivation, to describe the seven times renewed grass "flush" and the corresponding flush of milk attainable at all seasons, if the farmer cannot afford the necessary fertiliser purchases or is trying to keep down his wages bill? It is in short essential to have capital at command. Owing however to another cause, reinforcing that of low remuneration, *viz.*, the comparatively long immobilisation of capital applied to agriculture, there is great difficulty in attracting bank or private capital. Advances of capital by State loans are still made too grudgingly. There are, however, many signs of the stirring of dry bones in this respect. It is becoming more and more an accepted principle, as for example, with the Land and Agricultural Bank of South Africa and the Federal Farm Loan Board of U. S. A., to make capital loans rather to agricultural co-operative societies than to individual farmers, such loans, of course, carrying a much higher security with less risk. It is now being realised that the extent of rural indebtedness in any country is by no means necessarily an indication of poverty but on the other hand may be an index of economic progress, testifying to a growing demand for credit for production purposes, and hence having a direct bearing on general prosperity (2).

Besides the direct supply of capital, State action can do much to render agriculture more remunerative by proper regulation of rates of transport of agricultural products, removal of export duties if existent, relief in the matter of taxation and other charges on land. Other lines of State action having direct economic effect on agriculture have been indicated in the conclusions of the Technical Scientific Commission for Betterment of Rural Life forming part of the International Council meeting in Rome in November 1927 and of the representative very widely diffused movement for the Betterment of Rural Life. These proposals included : the assuring to growers of satisfactory road, rail or water communication with ports and with inland markets, and of all transport facilities, taxation of vehicles for upkeep, etc. of roads ; the proper provision of water to villages ; measures for extension of electrification of country districts, including power for farm work, the telephone, the telegraph, etc.

(1) Price Conditions and Accountancy Results in Swedish Agriculture in 1925-26. International Review of Agriculture, November 1928, p. 942.

(2) See in the February number of this Review: Mortgage Indebtedness of Farmers.

On the proposal of Dr. von Lindequist, the Commission expressed their sense that the rural population should not in future be at a disadvantage as compared with that of the towns in regard to the assignment of public subventions and subsidies. As is well known the passing of legislation for the benefit of agriculture is frequently rendered difficult owing to the preponderance of industrial and commercial representation on legislative bodies. As Dr. von Lindequist says, all proposals are primarily judged in accordance with their probable effect on industry and trade.

Among the factors in the problem which may properly be ranked as economic is the diffusion of farm machinery. The heavy initial expenditure makes the introduction of machines largely dependent on the earning capacity of the farm, but much may be done by co-operation to render machines available for small holdings also. The use of machinery on the farm more than compensates for any shortage of manual labour that may occur; it has in fact been shown that with a mechanised agriculture almost twice as much land may be cultivated as is possible with hand and animal labour only, with expenditure of the same unit of horse power. In addition intensification can be carried to a higher point than with manual labour, especially with application of electricity. It must be remembered that a certain amount of supplementary manual labour is always required, *e. g.*, on hilly or rocky land, for the corners of fields, etc., in addition to the labour needed for driving and tending the machines. The latter type of occupation affords openings for men with a turn for mechanical work who can thus obtain congenial employment without migration to towns, and at a higher wage than they could earn as ordinary farm hands. The lightening of farm tasks for all concerned by the introduction of machinery is an obvious advantage and an important part of the general rationalisation of agricultural labour.

Viewed from the standpoint of the wage-earner in agriculture, the position may be summed up in the words of Prof. Seedorf of the University of Gottingen "a non-remunerative agriculture cannot pay wages". The figures available from Germany, Czechoslovakia, Sweden, Switzerland show very striking differences in the cash wages of agricultural and industrial workers, amounting at times to 50 or more per cent. In this connection Dr. von Lindequist remarks however "wages in industry and agriculture are not comparable, as in agriculture there are considerable payments made in kind. It is difficult to calculate the wage in kind in terms of cash. For example, suppose the rent paid (by an agricultural labourer) for a morgen of potato land is 15 marks, the grower's price for 30 quintals of potatoes gathered will be 90 marks, and the consumer's price in the town for the same quantity will be 300 marks". This also illustrates the relative purchasing power of wages in town and country.

Even though the advantages of the industrial wage may be in part illusory, it is beyond doubt that the prospects of a higher cash wage and of advancement are among the principal causes of the migration of labour to towns. It is important to note that some observers, especially in the really prosperous agricultural countries, such as Holland, consider that this movement is an economic necessity and advantage. They argue that if the rural population exceeds a certain density an increasing percentage must inevitably pass to trade and industry. If such migrants are of the type who will merely drift into the unskilled labour market of the town, undoubtedly a social evil results. If on the contrary this quantum is made up of promising youths who because of pressure of surplus population and from a healthy ambition deliberately seek other occupations than those of their forbears, it is surely difficult to argue that the national economy must necessarily

suffer. "La carrière ouverte aux talents" has been recognised as a sound principle and basis of national life and character.

In particular the breaking away to the town is a frequent outcome of the farm family labour system. The assistance of members of the family is often taken for granted by the farmer and it is considered that their work is sufficiently remunerated by board, lodging and a little pocket money. The boys and girls just growing up under such conditions will suddenly realise that they can command a higher wage elsewhere, and will leave the farm as soon as may be for a town occupation. Here the economic inducement is undoubtedly reinforced by the psychological factor, namely, the revolt of youth against the parental yoke, the longing to escape to freedom from the traditional routine.

The breaking up of a farm family on the death of the father has certain similar features. If by the law of inheritance all the sons have equal rights, but the farm is too small for profitable division it will become necessary to sell it, and the landless men must then choose between hiring out their labour to other farmers or seeking occupation in the town. The choice will be made largely on economic grounds, although age and personal predilections and ties must enter. Where on the contrary the law of primogeniture prevails the classic situation arises by which the younger son goes forth to seek his fortune and may, as the folk tales relate, achieve heights undreamt of by his brothers, who must perforce be content with the humdrum farm or mill.

Fortunately however for the world there are many who are by temperament not only suited for but happiest in the tranquil, if uneventful, life of the country side. Far from chafing at their lot, the recurring duties, the close contact with nature, the "secura quies" develops in such that sagacity, that sanity of judgment, that shrewd humour which are admittedly among the qualities of the countryman. It is with such types as these in mind that legislators and others are endeavouring to strengthen the economic and other factors calculated to ensure that the rural dweller does not, from social and cultural influences, sink into a veritable Slough of Despond. Among the problems of national development is the preservation of this intuitive wisdom of the peasant along with all encouragement of the mental adaptability required by modern conditions. The solution is perhaps to be found in the establishment of more organic relations a truer partnership between town and country.

Among the economic measures tending to secure a stable and contented rural population the system of peasant proprietorship or small holdings is most frequently advocated. It is desirable in discussing the advantages of this system to distinguish between its working in purely agricultural countries, with an agricultural population normally 80 per cent. such as Rumania, Bulgaria, Poland, and its introduction and effects in more industrialised countries such as Czechoslovakia. For the first group peasant ownership followed on the breaking up of the latifundia, the primary objects being to release the peasant from his state of moral and material dependence, and to check the migration of the agricultural labourer to neighbouring or overseas countries with resulting depopulation of the land; objects which have in a measure been attained. In Czechoslovakia, on the other hand, it constituted a definite attempt at home colonisation, or at placing on the land persons who had left it or even may not have previously followed an agricultural occupation. It is significant that the Czech authorities say that it is not yet possible to judge of the effects of the redistribution which was carried out in 1919. In certain other countries, notably the Scandinavian countries and Belgium and Holland, the small farm has for long been an important element in

the rural and national economy, and much is done to encourage the institution. In Sweden in particular, State loans have been made since the beginning of this century for purchase of land by agricultural workers and others, and the success of the scheme seems to indicate that the cultivator is ready to remain in his occupation if he has the opportunity of acquiring land. A similar policy is pursued in Finland, one of the most progressive of European countries. The flourishing industries and export trade of these countries are closely connected with the agriculture and there is a vigorous development of agricultural co-operation. On the other hand the question of remuneration of capital may with small occupying ownership, to a certain extent safely, become secondary. If the farmer can obtain from his small holding continuous remuneration for his own labour together with the advantage of cheap living for his family, he may not aspire further. However he generally does, especially if stimulated by co-operation.

Small occupying ownership may not however be the remedy everywhere. Sir Daniel Hall, and the exponent of rural economy at Oxford, Prof. Watson, are of opinion that it is not the best solution of the problem of agriculture in England which demands rather an increase in the number of large holdings equipped with larger and more complicated machines, holdings on which some approach can be made to the mass production of modern industry, and where there are more brain workers and fewer day labourers. Prof. Watson advocates profit sharing, but insists that the farmer must concentrate on management. It is now agreed that while it is probably uneconomic at present to increase the gross output, the farmer's returns can be increased by securing an economic output at lower costs.

Coming now to the social forces at work either furthering or counteracting the migration from the country to towns, the basic force is undoubtedly education. Here two distinct views may be noted. It may be on the one hand taken for granted that young persons growing up in the country will and indeed should enter agricultural or allied occupations and that consequently the instruction given in the rural primary school should be oriented throughout towards country life and rural occupations. According to the opposed view to quote from a note received from the Board of Agriculture for Scotland "the country school should be the door of opportunity to the ambitious youth". In the words of a American correspondent the school should "familiarise the young people with the opportunities offered by agriculture, but... also to an equal degree with every other form of opportunity".

"The youth of the country side is not to be *peasantised*". This last is naturally the view of a country which has never had a peasant class; but it may be agreed that the school whether in town or country should, at least up to the age of 14, educate for life and not for a particular occupation. Since a human being is only partially developed if he cannot fully use his hands manual training should be universal. A woman should be acquainted with the household arts even though she may never actually manage a house, hence all girls should receive some training in domestic economy. The school garden, the school live stock, are equally educative in the town as in the country; every human being learns much from the care of plants and young animals. None of these pursuits should interfere with the acquisition of reading, writing and arithmetic, subjects which must be equally taught to all children if they are to take their place in the modern world. Much is often and rightly urged about the fostering in the rural school of intelligent interest in rural surroundings and pursuits, but it may reasonably be urged that interest in the wider world beyond the home district should also be encouraged. And this is easy, since, left to itself, the child would probably rather hear about a bear or a

tiger than a cow, and would rather read about Mexico or China than about his own river valley.

In regard to later stages of education, it is a generally agreed that organisation of agricultural education or training for the occupation of farming is essential although its character must depend on the degree of development of the country concerned. Special farm schools or farm departments in secondary schools, as in Belgium or New Zealand, form possibly the most complete type, but other types of post-primary or adult instruction in farm subjects all have their place and value. It is all important that *general* post-school education, however necessary such provision may be under certain conditions, should not be allowed to supersede or to encroach upon agricultural instruction proper.

Besides formal education, a great importance must always attach to the cultural influences of all kinds which affect adolescent and adult life, healthy recreation, music, the drama, good talk, good books, good pictures, etc. It is the recognition of the comparative paucity of these influences in rural neighbourhoods and in the attempt to supply this need that the greatest advance has been made in recent years in regard to the whole problem. The subject has been fully and ably handled in previous issues of this Review (1) and is also so constantly the subject of discussion in the public press, that it would seem unnecessary to dwell at any length upon it. It may perhaps be observed that while the pre-requisites of rural betterment, *e. g.*, housing, lighting, village planning, due provision of educational, medical and hygienic services, fall mainly within the competence of the local administrative authorities, the provision of cultural influences proper is more naturally the business of voluntary or social service, which becomes extended until those who were originally merely passive recipients of the benefits themselves participate in their diffusion.

The work already done in England on these lines by the comparatively recently established Rural Community Councils is of great interest, and special mention may be made of the development or revival of village music and drama thereby effected.

The spontaneous return to farm life which is beginning to be noted in the United States is probably in anticipation of better economic returns but may also be in part a result of the active work of rural community organisation.

If, as seems to be indicated, rural migration is inevitable in progressive countries, are we therefore to resign ourselves to a deterioration of national life and character? Is it not possible to envisage along with a betterment of rural life, also a much needed betterment of urban life? Has not such betterment in fact begun to take shape needing only the mitigation of man's ultra-egoistic tendencies to reach fulfilment? Viewed ideally, to quote from the writer in the *Sociological Review* the town should be the node and radiating centre of a region, where not only all the material resources and advantages of a region but also the cultural resources, the social heritage in fact, should be brought together and *made available for the whole population of the region*; while it should also act as a sort of conduit for passing on to its own region the surplus or characteristic commodities of other regions. The city should be, in other words, in active, organic partnership with the region; and as far as possible a state of economic balance should be maintained between agriculture, the extractive industries, manufacture and trade. With the realisa-

(1) See, Beaufretton: Leisure Time Occupations in the Country. *International Review of Agricultural Economics*. 1925³ March, and Graftiau: Movement for the Betterment (Embellissement) of Rural Life. *International Review of Agriculture*, July 1927.

tion of this ideal, including as it must a sound town planning, there might be a gradual disappearance of the present unlovely features of town life, and its senseless waste, while by the co-operation of town and country mentality and interests, a more " humane " life might emerge for all. Migrations under such conditions would be no more than the natural re-grouping of each generation as fitted by aptitude or temperament for the industrial or agricultural occupations of the region, while there would also be natural interchange between regions at home and abroad. May there not be found here some contribution to the solution of the world population problem so far as it depends on redistribution of densities ?

C. H.

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LAND SYSTEMS

The " Opera Nazionale per i Combattenti " in Italy.

The *Opera Nazionale per i Combattenti*, which was established in Italy by a Lieutenantancy Decree of 10 December 1917, No. 1970, and has an endowment amounting at the present time to about 365,000,000 liras, was, as is well known, from the first organised in three sections : an agricultural, a social and a financial section. The work of the first was to build up a large landed property and to bring it under profitable cultivation by employing the labour of the ex-service men ; that of the second section was to assist these men to pursue their occupations, and to encourage their economic activity ; the object the third section is to promote by means of loans the regaining of productive capacity by individual ex-service men and their economic organisation. In 1926, however it was recognised that the time had come for disengaging the *Opera* from the transitional forms of activity which were characteristic of the post-war period, with a view to enabling the organisation to devote all its strength to the agricultural revival in Italy. Hence by Royal Decree-Law of 16 September 1926, No. 1606, new regulations were approved in accordance with which the agricultural section became the central activity of the Institute, and the social and financial sections have become subsidiary. The Regulations state that the object of the Institute is " to assist in the economic development and in the improved social organisation of the country, with respect mainly to the transformation of the systems of land tenure and to the multiplication of small and medium-sized holdings, so as to increase production and to encourage the permanent settlement of a more numerous agricultural population ".

For the development of its programme the *Opera* has power to acquire real estate, land in emphyteusis and rented land. It may demand the transfer to its ownership of real property, whoever may be the owner, when such is subject to land improvement obligations or seems likely to undergo important land transformations or industrial utilisations connected with the agricultural activity of the *Opera*, or when any such property is required for the construction of country market towns or centres of settlement. It may in addition demand the assignment in emphyteusis or on long lease of the rural lands belonging to the State or to other public bodies, when the utilisation of these lands would serve its own purposes. The conditions for the transfer of property or for the assignment in emphyteusis or on lease are set out in detail by a special Central College of Arbiters, with seat in Rome. The procedure followed in this delicate matter is of interest. The *Opera* prepares the way for the decisions of the College indicating the lands the assignment of which it demands, and the compensation offered, and submitting the scheme of transformation in brief. The request is notified to the owner ; a summary of it is published in the *Gazzetta Ufficiale* of the Kingdom of Italy. Within 45 days of the date of publication, all persons having a claim on the land may notify it to the *Opera* and may submit objections, including objections to the compensation proposed. When the proper term has expired, the Central College of Arbiters gives judgment on the application, and if the compensation has been agreed between the parties and has not been disputed by the person concerned, it declares the amount of the compensation and the names of the claimants. The transfer into ownership or the assignment in emphyteusis or on lease is ordered by Royal Decree, issued within 120 days of the submission of the application. The non-appearance of such a decree is equivalent to a refusal of the application. No appeal exists against the Royal Decree.

The right to demand assignment of certain lands is especially exercised in cases in which there is little or nothing being done by private owners, on account of the difficulty of making investments in land. Ex-service men who are farmers, individual or in association, do not as a rule have command of funds for carrying out land improvement works or changes in the system of cultivation such as the lands added to the property of the *Opera* require in the greater number of cases. The *Opera* however makes no grants of lands not susceptible of immediate cultivation until after the improvements indicated have been carried out. The institute makes provision, as a rule, for the execution of land drainage work and land improvements directly, making use of the labour of ex-combattents either as individuals or in groups, under its own technical supervision ; it may also concede or contract out the work to firms or other bodies offering the necessary guarantees. Lands which can be cultivated without delay are granted to ex-service men farming it directly or to farmers' co-operative societies the membership of which is mainly composed of ex-service men. In this connection the *Opera* has introduced with success new forms of contract by which on the one hand the tenant is assured that, after a longer or shorter period of experiment and on the basis of favourable results of such experiment, he will enter into full possession of the land granted to him, and on the other hand there is a guarantee in the general interest of the performance of all work essential to the transformation and improvement of the land. These forms comprise usufruct with obligation to improve, renewable, and usufruct with obligation to improve, with right of purchase. In both cases the obligation to make improvements constitutes the basis and the ground of the concession. In addition to the forms of tenancy mentioned, the *Opera* may also adopt other systems of concession ; it may, *e. g.*, grant lands on temporary lease, or without further formality, in ownership. But when a farm, even if

ready for immediate cultivation, forms part of the property of the *Opera*, it is not possible in practice to arrange immediately to rent it on an improving lease to ex-service farmers. Such lands are nearly always of considerable extent and hence it is essential to prepare an accurate scheme for subdivision and utilisation which will take account of the nature and condition of the lands, the transformations, and improvements which it will be possible to carry out and of the funds available for the purpose. During the progress of this preliminary work, the lands may be rented for ordinary cultivation, *i. e.*, without obligation to improve. When these operations are finished, the lands are granted on one of the two forms of improving lease and more frequently on that carrying right of purchase. On the other hand in the case of lands which can be brought under cultivation simply by the work of the farmer, and for which application is made by ex-service men who have the necessary technical knowledge and skill and are prepared to pay the price at once, the Institute proceeds without further formality to the sale, which is however made subject to the obligation of carrying out certain improvements as agreed within a given time. This obligation binds alike the tenants and also the purchasers of the lands ; its neglect may lead to lapse of the concession. It may be added that all disputes on this question are settled without appeal by the Central College of Arbiters.

The Regulations further provide that, up to the time of completion of the land improvement and transformation works which formed the condition of the sale or other method of transfer of the property, no contract nor deed of alienation, with or without charges, is valid unless it is notified to the *Opera*, which within thirty days of the notification declares whether it proposes to proceed to the redemption of the land, making reimbursement of the price already paid and paying the value of the improvements carried out.

At the end of 1927 the landed property of the *Opera* had increased to 50,128 hectares, of which 21,202 hectares had been brought under cultivation for the first time. To this area there must be added 24,611 hectares administered under trust and 1,800 hectares leased. Consequently 76,539 hectares in all come under the agricultural activity of the institute. Tenure conditions at the end of 1927 were as follows : 28,733 hectares were farmed directly ; 23,022 hectares were rented ; 16,240 were alienated with obligation to improve ; 7,439 were rented on an improving lease ; and 1,105 alienated without obligation to improve.

The main production for the farms directly worked may be thus shown for 1927 : cereals 95,813 quintals, forage crops 126,005 quintals, leguminous crops 13,316 quintals, industrial crops 14,740 quintals. The development of the live stock assets of the *Opera* is remarkable. From 1920 to 1927 the progressive figures are as follows : cattle from 354 to 2,900 ; horses and mules from 55 to 512 ; sheep from 8 to 502 ; in eight years accordingly the total head increased from 1,107 to 10,100. The increase in the machinery and implement assets is also striking, passing from a value of 2,400,000 liras in 1920 to 8,160,000 liras in 1927. In the same period the expenditure for land improvements directly executed by the *Opera* has amounted to 22,870,000 liras. An area of 67,029 hectares has been drained by works carried out by the institute ; the expenditure for these amount in the period 1920 to 1927 to 52,246,855 liras. It may be added that the *Opera* has organised 800 courses of practical agriculture, and has distributed over 200,000 works on agriculture, history and educational subjects generally, and that through its means there have been established 850 libraries, 56 depots of agricultural implements and 9 travelling films for agricultural propaganda. As a result of its initiative 500 new houses have been built and 20,000 labourers have become small holders.

G. C.

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Regolamento legislativo per l'ordinamento e le funzioni dell'O. N. C. Regio decreto-legge 16 settembre 1926, n. 1606.

Regolamento per la costituzione e il funzionamento del Collegio Centrale Arbitrale dei Collegi Provinciali Arbitrali. Regio decreto-legge 16 settembre 1926, n. 1607.

L'Opera Nazionale Combattenti nel X° annuale della vittoria. Presentazione di Benito Mussolini. Opera Nazionale Combattenti, Rome, 1928.

Development of Land Improvement and Settlement in the Roman Campagna.

The provisioning of Rome, which has become a more acute problem with the steady increase of the population of the capital, makes of national importance the bringing under cultivation of the Roman Campagna, which extends over an area of about 200,000 hectares around Rome. A steady gradual effort is being made by the authorities, by the Government and by the farmers, to restore the former fruitfulness of the region. This land improvement scheme was declared of public utility in 1878, and by the law of 1883 the principle was affirmed that it was compulsory on all land owners to effect improvement of agricultural land in the estates included in a belt of land on a radius of about 10 kilometres from the centre of Rome (subsequently considerably extended), and the penalty of expropriation was imposed on those who failed to meet requirements. By the law of 1903 facilities were given to owners for obtaining funds for the purpose. These earlier laws were consolidated in a single law of 10 November 1905, No. 647, and were followed by other provisions. The law of 17 July 1910, No. 491, authorised, *inter alia*, the establishment of villages at a distance of at least five kilometres from the octroi boundary; and further the *Cassa di Colonizzazione per l'Agro Romano* was set up under independent administration, with the object of granting premiums and subsidies for improvement of farm road facilities, drinking water supplies and irrigation, for construction of centres of rural habitation and in general the encouragement of every sort of initiative which might forward the objects of land improvement and settlement. By the provisions of 1919, 1921 and 1926 the laws relating to the Roman Campagna were extended to the lands of the Pontine Marshes, the upper Tiber valley and the territories of the communes of Anzio and Nettuno, in addition to all the administrative area of Rome as assessed for rating purposes; power was conferred on the Government to revise the earlier improvement schemes; the formation of centres of land settlement was authorised, such centres to consist of at least 10 holdings not exceeding an area of 15 hectares each (later raised to 30), etc.

As supplementing the principle of the compulsory nature of improvements, the following facilities are given to land owners by the laws on the subject: special loans for carrying into effect the prescribed improvements, at the rate of 2.5 per cent repayable in 45 yearly instalments to begin from the fifth year after each loan is made, in the first five years the borrowers paying interest only; ten years' exemption from the tax on new buildings; ten years' exemption from the main tax on lands when all the improvement works prescribed have been completed; ten years' exemption from the tax on live stock kept in new stables; the reduction of registration and mortgage taxes on deeds of purchase and sale and of emphyteusis, on improving leases and on any other deeds drawn with a view to land improvement; exemption from any kind of tax or duty for the period of twenty years, for the land settlement centres and the villages; premiums and subsidies up to 25 per cent. of expenditure for works specially named; facilities for private contractors, who in-

tend to construct in the Roman Campagna villages or centres of colonisation and who have not the land required, to request the expropriation for public utility purposes of the belts of land necessary for the execution of their schemes after inspection and approval by the Ministry.

The two decisive factors of the revival of the Roman Campagna were however: the possibility, thanks to the new and powerful steam appliances, of deep ploughing of the land, and the assured supply of drinking water and of water for irrigation. During the five year period 1923-1927 improvement schemes were carried out with that rapidity which was required for the needs of production. In the first place a review was made of the progress already made in the belt of 53,000 hectares nearest the capital, since the work accomplished in that area represented only a first step towards a complete improvement scheme. Next fresh comprehensive schemes were imposed on the owners for the complete land transformation of the estates of the zone, so as to obtain an increase in dairy cattle keeping by means of laying out permanent and rotation artificial meadows, and by construction of new cow-houses on scientific lines; the schemes also include the planting of fruit-trees and of vegetable gardens both irrigated and unirrigated. In addition the problem of the reclamation of the other 135,000 hectares of the Roman Campagna was resolutely attacked and schemes were brought to the notice of owners the object of which was to give the traditional Roman sheep farming a more industrial and therefore more remunerative character, and to bring under rotation crop farming lands on which crops could be grown at a profit. At the same time fresh measures were taken for the formation of land settlement centres which were to result in the girdling of the capital with gardens and orchards.

The policy of the last five years has been directed towards formation of new cultivation units of smaller extent throughout the territory under consideration, and so to organise them that each farm holding from least to largest shall yield all that it is capable of contributing to the national economy in accordance with the conditions of environment and soil. Out of the whole rateable area of the estates, equal to about 182,000 hectares, 5,350 hectares are now divided into small lots; more than 19,400 hectares have been already split up into holdings, taking into account the land settlement centres formed by the Ministry and the holdings resulting from the work of societies or individuals, based on the Ministerial instructions; 25,000 hectares are divided in 330 small holdings of from 50 to 100 hectares, there are now 200 medium sized holdings from 101 to 200 hectares with a total area of about 30,000 hectares; while the number of large holdings of from 201 to 300 hectares has been reduced to 50 with a total area of 13,400 hectares; 10,865 hectares have been subsequently divided into 54 mixed crops and pastureland centres of from 100 to 250 hectares, and 19,000 hectares have been divided into 99 pasturage centres with natural improved grassland. Land improvement has thus been achieved over a total area of more than 122,000 hectares; a little more than 59,000 hectares remain for which schemes of compulsory improvement are in progress or under consideration.

As already stated, the works which are being carried out on the various estates are financed by the State by means of loans at 2.5 per cent. The total amount of these loans granted from 1907 to 30 June 1927 was over 233,000,000 liras.

It is with these loans that the nine villages have been built which are now to be found in the Campagna, with their country cottages each with at least half a hectare of land attached; also the 14 land settlement centres, including 226 holdings in all, providing interesting examples of vegetable, fruit and flower cultivation. With these loans too, many estates are now being split into holdings and new farms

being organised, including the putting up of land workers' dwellings, stables, sheep pens, cheese making sheds, silos, etc. ; while farm roads are being made and wells sunk for drinking water and for irrigation purposes. In addition to this method of financing, the State encourages improvement and settlement of the Roman Campagna by means of premiums and grants from the funds of the *Cassa di Colonizzazione*, to which reference has already been made. From 1911 to 1927 a sum of 3,457,856 liras was thus contributed, mainly intended to encourage the formation of small holdings.

G. C.

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L'Agro romano nel primo quinquennio fascista. Relazione sull'incremento del bonificamento agrario e della colonizzazione nell'Agro romano dal 1° gennaio 1923 (I) al 31 dicembre 1927 (VI). Ministero dell'economia nazionale. Direzione generale dell'agricoltura. Roma, 1928.

AGRICULTURAL LEGISLATION

Forestry Legislation in the Scandinavian Countries.

Forests form the natural wealth of the majority of the Scandinavian countries ; in fact almost one-sixth of the total wooded area of Europe is to be found in Finland, Norway and Sweden, while timber represents 80 % of the total exports from the last named country. In spite of the fact that this form of wealth does not need a very fertile soil or very favourable weather conditions for its safeguarding and development, it is none the less certain that this valuable patrimony, had not the legislator intervened to defend it against the greed of man, against natural calamities and other risks, would have been squandered or at least considerably reduced. Hence the legislation of all the Scandinavian countries abounds in provisions on the cutting, felling and regeneration of forests and on their protection against fires, insect pests, moving sands etc.

In Norway the forest land belongs for the most part to private estates, whilst in the other three Scandinavian countries almost one-third belongs to the State. And since the whole of these great tracts of State forests with the exception naturally of those set apart for State use, are let out under various forms of contract to private individuals, we have a mass of administrative measures for the supervision and control of cutting and regeneration.

In the main the Scandinavian countries, with the exception of Denmark, follow the same policy in the matter of forests, and in consequence the legislative systems do not differ essentially as between one country and another : indeed it may be said that in this sphere the countries in question mutually inspire each other. Thus, for example the enactment in Norway and Sweden of a special law requiring persons undertaking operations of cutting and floating to supply their labourers with properly constructed and equipped huts is followed in Finland by a bill with the same object.

Hence it is superfluous to draw detailed comparisons between the four legislative systems and to bring out the differences between them ; the present survey will therefore be confined to an illustration of the main characteristics of the systems in question.

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It must, in the first place be pointed out that if forestry legislation occupies a place of first importance in Sweden and in Finland, it assumes great importance also

in Norway and even in Denmark in spite of the fact that the wooded area of this last named country is by comparison, somewhat limited in extent.

Forestry legislation in the Scandinavian countries does not seem in early times to have followed a pre-conceived, systematic plan, being in fact, based on very ancient traditions. But already at the beginning of the XVIth Century schemes of management began to be undertaken. This was the case, for example in Sweden when in 1572 King Gustav Vasa declared as State property all land not belonging to private individuals. These State domains, which also comprized vast forest regions, were subjected to a highly rigorous administrative system, while legislation began gradually to assume a specialized character due also to the variety in the prevailing climatic and soil conditions and to the unequal distribution of the wooded areas. In 1913, for example, the law passed on the State forests, applied to the whole of Sweden, with the exception of the Northern provinces of Norrbotten and Västerbotten, part of the province of Jämtland as well as the islands of Gottland and Öland. Another law applied only to "Lappmark" whilst the law on the measurement of timber intended for purposes of exportation and industry was enacted exclusively for the littoral districts of the provinces of Norrbotten and Västerbotten. Another law, on "Protection Forests" applies only to the Kopparberg and Jämtland, whilst the law passed for preventing the destruction of forests refers only to the Islands of Gottland and Öland.

In Finland where, on the basis of the general estimates made in 1922 and in 1923 it has been ascertained that the forest area comprises 73.53 % of the total land area proper, the legislator has been chiefly concerned for many centuries in taking measures to prevent the devastation of this immense natural wealth and ensure its replacement. In Finland as in Sweden, the majority of the forests have remained the property of the State, for Gustav Vasa's proclamation applied also to the latter country which at that time formed part of the Kingdom of Sweden.

The legislative system, however, became later on greatly modified and we find that in the 17th Century wood obtained from the forests could be freely used for domestic needs. In the course of the following centuries the law only allowed taxpaying forest owners to utilize their forests with any freedom provided that the nature of the wooded area was not thereby prejudiced. Soon however the Government was compelled to make a still closer definition of this reservation and with this object appointed several commissions to consider the question. The recommendations made by these commissions led to the Forest Law of 1886 which gave forest owners full right to carry out felling operations in their forests provided their regeneration was assured. This important clause was further defined in 1895; in 1908 the need for a legal regulation of the supervision and protection of forests brought about the formulation of a fresh bill. In 1927 yet another decree prohibited tree felling unless their regeneration was assured. From that date onwards forest legislation in Finland has been still further modified as a result of the very considerable development of forest economy and the growth of the trade in wood products.

Similar provisions on forest exploitation are found in the legislation of Norway. Laws passed in 1908 and 1926 contain very strict provisions on the cutting of trees in the various districts and even prohibit altogether the cutting of trees whose dimensions do not reach the minimum figure prescribed by the law. The law of 10 February 1908 nullifies in certain circumstances contracts concluded for the felling of trees whilst absolutely prohibiting contracts of this kind when their period of duration exceeds three years.

The characteristic feature of Danish legislation on forestry consists in the elaboration of strict protective measures. The Government, having only a modest forest

patrimony, seems to have made a correspondingly greater attempt to ensure as far as possible its safeguarding and utilization by setting up a scientific and rigorous system of protection.

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All the administrative measures dealing with forestry contained in the laws of the Scandinavian countries assume a special importance due to the fact that the proper safeguarding of the forest wealth is essential for these countries, seeing that their general economic situation is very sensibly influenced by the forestry situation. Even from the administrative standpoint the legislation of the four countries shows obvious analogies. In *Sweden* all the State forests are administered by the General Forests Department or are placed under its control ; there exists, however, in each district a special Department which in application of the provisions of the Laws of 13 June 1908 and of 15 June 1923, is responsible for the administration of the forests in that district. A forestry Experimentation Service, constituted and regulated by the Decree of 23 November 1912 and of 5 March 1915 together with a Forests Committee instituted in each district, collaborate with the Department which is required in addition to encourage forest economy by diffusing technical information, granting subsidies and distributing plants and shoots. A law on forest lands in private ownership allows the intervention of the Forest Department in the exploitation and management of forest covered areas belonging to private individuals. In fact the powers of the forest administration in Sweden are very wide ; it is even allowed the legal right to limit the application of the legislation in force if circumstances so allow.

The administrative measures in force in *Finland* do not differ appreciably from those adopted in Sweden.

The General Forests Department has been re-organized by an Ordinance of 1921 which placed the administration of the State forests in the hands of a special section sub-divided into four sub-sections ; another section, sub-divided into two sub-sections, deals with private forest land.

The various attributions of the forests administration of Finland were laid down in a Decree of 3 June 1921 which was later modified by a Decree of 16 May 1924. A feature of particular interest is the provision whereby the General Forests Department is required to draw up a scientific scheme of management for the different forest zones of the country covering a period of ten years.

The forest legislation of Finland, like that of Sweden, assigns primary importance to measures dealing with the timber trade and with the exportation of forest products, for it must always be borne in mind that the chief places in the world market of timber are held by Sweden and Finland. In 1861 the Government of Finland repealed the restrictions on the sawing industries and followed up this measure by a vigorous attempt at an ever greater development of its principal industry. With the object of putting into execution its important forestry programme it granted the Forests Administration the right to sell standing trees.

In *Norway* all questions connected with forest administration are entrusted to a special division of the Ministry of Agriculture ; the acquisition of forest lands is however carried out by the Bureau of Concessions which is attached to a different division. Under the direction of this service Norwegian forestry management especially during the last few years, has become increasingly scientific while the general trend of policy has been in the direction of reconstituting the State patrimony. A law of 10 September 1909 lays down that no wooded area may be ceded save with the Royal consent, except to the State, to communes and to Norwegian

citizens, if that area when added to that already in the possession of the proposed owner, would bring the total up to a figure exceeding 500 hectares or would amount to a tenth part of the wooded area of the district. This consent must also be obtained by the communes when the ground which forms the subject of the contract of sale is not situated within the area of jurisdiction of the commune in question. The calculations and measurement of the forest area necessary with a view to the stipulation of the contract are carried out by the commission set up in the forest district.

These restrictions, except for those cases which involved considerations of an administrative character already referred to, do not apply to the communes who in fact enjoy the right of pre-emption on the case of sales of forest areas. This privilege gives the administrative authorities the possibility of acquiring vast forest tracts for purposes of public utility. These acquisitions have also proved highly advantageous financially.

In considering the question of forestry policy, reference should be made to the constitution in each district of timber measurements associations, in pursuance of the Law of 22 June 1928 passed with the object of ensuring uniformity in the measurement of timber intended for sale on a basis of metric units. Special provisions are applied where the constitution of these associations is impracticable and where despite instructions, they have not in fact been created.

In *Denmark*, again, forestry administration is regulated by the Decree of 11 March 1913. The supreme control of the State forest domain is entrusted to the charge of a Director who is responsible for proper exploitation.

The State forest possessions are divided into different districts administered by a special official (skovridder) who is required to make an annual inquiry into the conditions of forest exploitation in his district and to draw up a working scheme for the forthcoming year for submission to the Director. The extent of this official's authority is shown by the fact that no felling or other operation can be effected without his previous permission. Regulations on the subject of the forest administrations in Denmark were published in an Order issued on 11 March 1913.

The legislative measures regarding forest settlement, exploitation and protection in the Scandinavian countries which are distributed over a large number of laws, decrees and regulations are in each case of highly complex character. This is due to the necessity of making provision for districts differing widely as regards latitude, nature of the soil, exposure to adverse weather conditions, etc. In the matter of protection, however, the legislative provisions are almost uniform for there is only one way of checking the damage caused to forests by wind and fire. But since forests must be further protected in one area against moving sands, in another again particular forms of diseases, in a third against damage caused by insect pests, legislation in the matter of forest protection in the Scandinavian countries is copious and varied. Legislation on the subject of colonization, on the other hand, varies in character according to the particular country.

In *Sweden* the Government while possessing an immense quantity of forest land, has only a limited supply of labour and has therefore been obliged to make large grants of such land especially in the northern regions, to settlers who undertake to clear it and bring it under cultivation. These settlers pay no taxes or rent and have also the right to establish a small farm on the edge of the forest.

Other measures regulate the partition of the land on the death of the settler

and fix there the number of hectares of arable land, peat bog and other land surface to which the various heirs and assigns are entitled.

The Swedish Government is effectively assisted in the various phases of its forestry work by the State Forestry Research Institute founded in 1902. This Institute, whose competence and authority are of the highest standard has a special section which deals with all questions connected with the development and regeneration of forests. Reference should also be made to the foundation in 1912 of a Forestry Association for the purchase and management of devastated forests.

As regards forest protection in the kingdom of Sweden it will be sufficient to mention an important law passed on 15 June 1923, which has been modified by later laws of 6 June 1924, 17 April 1925 and 17 June 1927. Together these laws may be considered as constituting almost a complete code of legislation for the State protection of forests.

The rigorous character of these laws is immediately evident ; it need hardly be mentioned that all cutting, felling, regeneration, restocking and clearing operations and all operations for the transformation of marshy forest lands must be carried out with the permission and under the supervision of State officials. But these laws go even further and encroach on the absolute character of the principle of private ownership insofar as they prescribe that forest land belonging to private individuals can only be exploited as forests. Further enactments such, for example, as the laws of 28 June 1928 and of 27 May 1921 contain provisions for preventing the despoiling of privately owned forests, and a special commission for the upkeep of forests has been made responsible for the proper observance of the laws in force. This Commission has the right to forbid any operation it considers to be prejudicial to the proper maintenance of the forests.

The Swedish legislator has, with a view to controlling fire which is the greatest danger to which forests are exposed, divided the national territory into " fire districts " and appointed in each district a special State officer for the purposes of this control. This officer is entitled in the event of fire to call for the assistance of every able citizen in his district. Service of this kind is remunerated by an indemnity paid out of State funds.

The law passed on this subject in *Norway* on 14 July 1893 as modified in 1921, contains provisions similar to those of the Swedish laws, but does not grant any indemnity to persons who have helped to extinguish fires. The Norwegian law also introduces certain restrictions as to the use of fires in fields under cultivation.

As has been stated above, fire is the most serious menace to Scandinavian forests and calamities of this kind in fact recur with disastrous frequency. The ravages caused by diseases and pests are far less considerable, as also those due to snow and wind. The legislation of Finland, Norway and Denmark is on this subject almost uniform. Reference must however be made to the law of Denmark of 11 March 1921 which deals with the danger to which forests are exposed from railways built across or adjacent to them. In order to eliminate risks of this kind the law lays down that the track must have on each side a clear space at least 15 metres wide.

Some further details regarding forest production are subjoined.

In *Finland* in pursuance of a policy of establishing State settlements, a law dated 20 May 1922 authorizes the purchase of lands held under lease in order to avoid the disadvantages of excessive sub-division and to re-establish the land capital necessary for the requirements of the State and Communes or for public utility purposes. The law of 11 May 1928 on privately owned forests required the " Central Forestry Commissions " the number of which was fixed by a later law dated 13 September of

the same year at 18, to give every help and encouragement to private citizens in the development and management of their forest lands.

A law of Finland of 11 August 1922 passed with the object of maintaining forest borders and of protecting internal areas against moving sands, declares certain determined forests to be "protection forests". The owners of these forests may not cut trees or remove timber for their own use unless specially authorized by the competent local authorities.

Similar measures have been taken in Norway where provision for forest protection is made by the laws of 8 August 1908 and 7 June 1916 as modified by a further law of 8 June 1928. These laws define as "protection forests" all forest land which serves as a defence against the overflowing of rivers and against damage due to moving sands and gales.

In the case of *Denmark* mention may be made of the laws of 7 August and 16 November 1914, of 7 December 1927 and of 20 March 1928 prescribing regulations for felling and stating that special authorization is required in each case. On the other hand two laws of 10 April and 6 September 1928, render obligatory certain cutting operations for regeneration purposes. A special Commission has been appointed to examine applications made and, where considered advisable, to allow cutting during periods other than those laid down by the law.

In concluding this brief summary of the historical aspects of forestry legislation in the Scandinavian countries and of the principal administrative measures respecting forests exploitation, settlement and protection it may be claimed that although highly complex and varied the law reveals a constant effort on the part of the legislator to pursue and develop an economic forestry policy calculated to safeguard and obtain fullest value from the rich forest patrimony that these countries enjoy.

A. M.

Summary of the New Laws and Regulation.

URUGUAY. Ley. Se resuelve la compra de maíz para exportar, por el Consejo Nacional de Administración, y se autoriza a los frigoríficos para que faenen cerdos. (Reinserto por errores). 24 de setiembre de 1928. *Diario Oficial*, n. 6704 (25 de octubre de 1928).

[This law authorizes the purchase with a view to exportation by the official Seeds Commission, of 40,000 tons of maize, exportation type of the 1928 harvest. The purchase price is fixed at \$3.80 per quintal at Montevideo or some other port of embarkation. Exportation may, however, be made at a lower tariff if the international market rate makes this necessary. The exportation of this quantity of maize is exempt from port dues and charges. Further the Official Seeds Commission is authorized to rent or occupy the dépôts necessary for the maize so purchased].

The same law authorizes cold storage establishments to preserve for the supply of Montevideo, a quantity of park not exceeding 20 % of the total consumption of pork in the city. The laws establishing a circulation tax on the transport of pork and agricultural products, etc., is repealed].

** Decreto. Se reglamenta la ley relativa a la adquisición y venta de maíz tipo exportación de la cosecha de 1928. 11 de octubre de 1928. *Diario Oficial*, n. 6697 (17 de octubre de 1928).

[This Decree introduces detailed rules concerning the purchase of maize of exportation type contemplated by the law of 24 September 1928. The maize must be dry,

healthy, and pure with a degree of humidity not exceeding 15.5 % and with a maximum of 2 % decay, of 1 % immaturity and 3 % insect damage. The maize must be placed in new or once used sacks, of exportation type free from repair. No sack may weigh more than 65 kg.].

Bills.

BRITISH INDIA. — The Central Provinces Tenancy (Amendment) Bill 1928 No. XXVI, 22 August 1928.

[The Bill aims at removing the restrictions imposed on occupancy tenants in the matter of transferring their holding, and provides that "an occupancy tenant may transfer any right in his holding to a co-tenant or to any person who, if he survived the tenant without nearer heirs, would inherit his right". He may also "transfer by sale, mortgage or by sub-lease for a period not exceeding five years, any right in his holding"].

* * A Bill to protect the interest of sharers in permanent tenures from sale by reason of the default of their co-sharers. Bill. No. 4 of 1928. (*Bihar and Orissa Gazette*, No. 4 August 29, 1928).

[The protection aimed at in this Bill is effected by giving each share tenant the right to apply to the landlord for the opening of a separate account with him. In the case of execution of a decree for rent in respect of a particular share or shares the landlord shall, in the first place, apply for sale of the said share or shares only].

MAURITIUS. — Bill to amend the Animal Diseases (Consolidation) Ordinance, 1925. [*Gouvernement Gazette of the Island of Mauritius*, n° 28, 26 May 1928].

[This bill proposes the substitution for the Veterinary certificate and Bill of Health set out in the schedules to the Animal Diseases (Consolidation) Ordinance 1925 and the Animal Diseases (Amendment) Ordinance 1927 of an Official Export certificate under the seal of the Ministry of Agriculture and Fisheries in the case of animals imported from Great Britain and under that of the Ministry of Agriculture for Northern Ireland in the case of animals exported from Northern Ireland].

STRAITS SETTLEMENTS. — Boundaries and survey Maps (Amendment) Bill. Bill No. 2347, 25 October 1928. [*Straits Settlements Gouvernement Gazette*, No. 79,30 Novembre 1928].

[This Bill provides for surveys to be made of parcels of land where such Surveys have not already been done to the satisfaction of the Surveyor-General. After making these Surveys the Surveyor-General shall deliver a plan of them to the Collector of Land revenue who will then hold an inquiry into the accuracy of the boundaries shown on the plan and reproduce them, if necessary in a corrected form, on the map published under the provisions of Ordinance No. 31 (Boundaries and Survey maps)].

UNION OF SOUTH AFRICA. — Wine and Spirits Control Amendment Bill. [*The Union of South Africa Government Gazette Extraordinary* No. 1704, 12 May 1928].

[This Bill proposes the establishment of a stricter control over spirits manufactured in the Union from the produce of the vine and sold for potable purposes. Spirits intended for export, redistillation or rectification, or for use in the fortification of wine, or in the manufacture of gin, liqueur or vinegar are however excluded].

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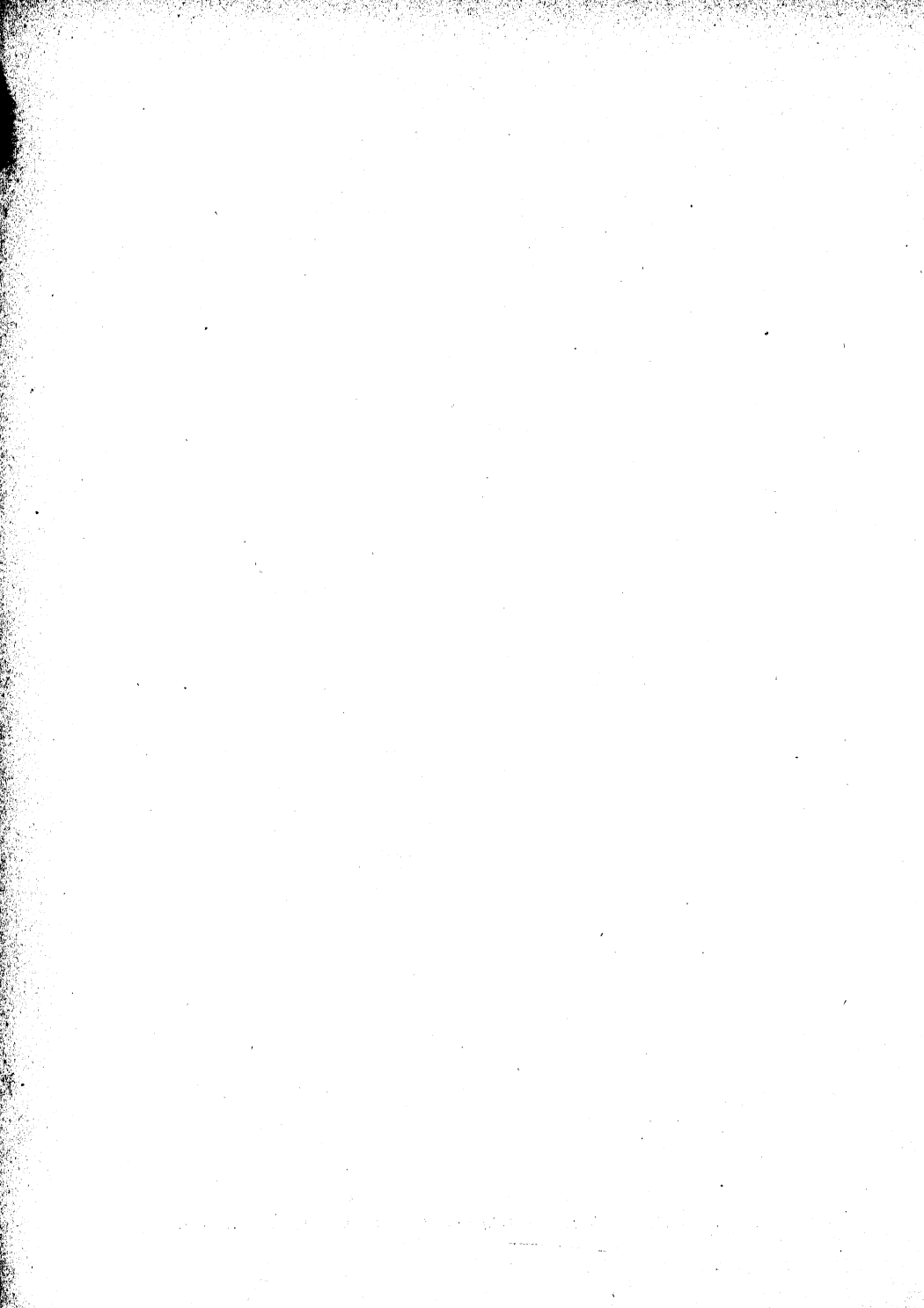
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INTERNATIONAL REVIEW OF AGRICULTURE

PART II

MONTHLY BULLETIN

OF

AGRICULTURAL ECONOMICS AND SOCIOLOGY

INTERNATIONAL AGRICULTURAL ECONOMY

The World Trade in Eggs.

The importance and extent of the world trade in eggs are much underestimated. The export of eggs is considerable; for 1927 it amounted for the countries indicated in Table I to over 5,000,000 quintals and thus exceeded the butter export of the same year by about 500,000 quintals. As regards the distribution of imports and exports among the different countries, a considerable vagueness often exists. The two latter points are not dealt with in this article; the following statement is confined to the development of the export trade in eggs and egg preparations in recent years.

In the following general survey the data are calculated in weight and 1600 eggs are reckoned to one quintal, egg preparations (1) are shown according to the weight stated in the statistical returns. Comparison of the pre- and post-war data takes into account so far as possible the changes of frontier, the formation of new economic regions and the modification of the method of compiling statistics. The great difference between the total exports and imports is due to several causes: 1. some part of the data refers to the farming years; 2. not all the importing countries are included; 3. conversion of weights involves some divergences.

Since 1913 violent fluctuations have taken place on the world egg market as on the general market of agricultural products. In the pre-war period the export countries, arranged in the order of exportable surplus were: Russia, Austria, China, Denmark, Italy, Turkey, Bulgaria, Rumania, the United States, Egypt, Holland, Morocco, Serbia, Portugal, Persia, Algeria. Some of these countries had however quite considerable imports, in particular Austria-Hungary, Holland, Russia, Italy and Denmark, while the United States, China, Algeria, Portugal and Turkey had a very small importation. In respect of the excess of imports, Germany and Great Britain stood first while a considerably smaller excess was shown by France, Switzerland, Canada, Belgium, Japan, Spain, Cuba, Argentina, South Africa, Greece, Norway, Sweden and Australia. Among the importing countries the following had a very large export: Belgium, France, Sweden and Germany; while Spain, Canada, South Africa, Switzerland and Australia had a small export. International trade was only very slowly resumed after the war. The marked decrease of the poultry stock in many exporting countries taken with the diminished demand of the impoverished regions of Europe contributed to prevent the speedy revival of the egg

(1) Whole eggs, yolk of egg and white of egg, dried, refrigerated or liquid.

trade, and the pre-war position was only reached in 1926. The egg trade seems to be gradually reverting to its former position. There are undoubtedly certain inaccuracies in the export and import figures available, but the main lines are essentially the same as earlier: the world egg trade maintains its characteristics of a large European import, the regions of surplus and deficit are on broad lines the same although their importance has altered, and certain importing regions such as France, Belgium, South Africa, Norway, Sweden and Australia have become countries with a surplus. Outside Europe there is an extensive trade in eggs in East Asia, North Africa, and North America. The internal trade is naturally larger than the world trade. It is only necessary here to refer to the huge turnovers of poultry produce in the United States which many times exceeded the total volume of the world trade.

Exporting Countries. Before the war Russia was the most important of the egg exporting countries. The Russian export amounted to approximately 40 per cent. of the export of all countries. The export increased from 2,845 millions in 1909 to 3,572 millions in 1913.

Exporting went on more especially in April to October. The principal exporting districts were the governments of Kasan, Koslov, Voronesh, Kiev, Orel, Chernigov, Poltava, Kursk, Kharkov. The governments of Voronesh, Kursk and Kharkov had a very high production for export. The produce of these districts was much esteemed by the export trade and was valued at from 2 to 3 roubles higher per 1000. Generally speaking the Russian eggs were only of medium quality, and the ignorance and backwardness of the peasantry gave rise to many complaints.

A considerable increase in the Russian export was brought about by measures of State. The centre of the trade with a strong influence on price formation was Petersburg, where in 1906 an exchange for eggs, butter, poultry and game was opened. The terms of constitution included trading rules which held good for the whole of Russia and established the grading and quality for the different classes.

The export was carried on by the land route over the western borders of Russia or from the ports, Riga, Petersburg, Libau. The most important of these was Riga and for a long time one-third or more of the export was shipped at that port.

The three principal customers for Russian eggs were Great Britain, Germany and Austria-Hungary. The trading firms of the importing countries had numerous representatives in the production regions; thus representatives of English wholesale dealers in the governments of Kursk, Kharkov and Orel and representatives of German dealers in Voronesh, Kasan, Koslov and Kiev. A large proportion of the eggs exported to Austria went to Germany, so that Germany occupied the first place amongst the countries importing Russian eggs; according to available estimates Russia accounted for 60 per cent. of the total import of eggs into Germany.

Before the war there was also a small import of eggs into Russia. In 1912 out of an import of 385,000 poods, 321,000 came from China, 59,000 from Persia and only 5,000 poods from other countries.

With the revival of poultry keeping the export was re-established in 1923 and has rapidly grown in the last few years, although the pre-war position, even taking into full account alteration in boundaries, is not recovered by any means. As this position is stated to have been regained as regards the poultry stock in the U. S. S. R., the home consumption must have increased. Germany again stands in the first rank among the receiving countries.

According to the customs statistics of the U. S. S. R. the quantities directed to the different countries were as follows:

TABLE I. — Egg Trade of the Principal Importing and Exporting Countries
(in 1000 quintals)

	Export						Imports						Excess of imports over exports (+) or of export over imports (-)					
	Average 1909/13	1923	1924	1925	1926	1927	Average 1909/13	1923	1924	1925	1926	1927	Average 1909/13	1923	1924	1925	1926	1927
<i>I. Exporting countries</i>																		
1. China	279	1,147	1,020	1,007	1,075	834	—	2	6	6	1	1	2	277	1,137	1,013	1,006	1,074
2. Poland	—	88	104	271	588	656	—	—	—	—	—	—	1	—	88	99	292	585
3. Netherlands	200	152	381	485	591	700	133	19	71	77	83	80	1	67	132	280	411	508
4. Russia	2,062	—	233	(1) 490	(1) 414	618	58	—	—	—	—	—	2,004	233	(1) 233	(1) 414	618	(1) 414
5. Denmark	260	500	520	504	528	528	15	7	13	7	—	2	215	491	508	497	519	526
6. Irish Free State (since 1 April 1923)	—	321	327	327	328	371	—	—	—	9	10	8	8	—	—	317	320	363
7. Belgium	84	40	105	139	255	303	135	37	18	23	9	12	51	4	—	87	116	247
8. Yugoslavia	29	172	201	272	311	264	—	—	—	—	—	—	20	172	201	272	311	264
9. United States	82	231	213	189	202	218	2	109	92	158	119	71	81	123	121	30	83	147
10. Hungary	—	35	60	143	168	142	—	—	—	2	2	2	—	35	60	142	167	140
11. Bulgaria	112	40	93	110	48	125	—	—	—	—	—	—	112	48	93	110	118	125
12. Rumania	84	20	80	108	114	—	—	—	—	—	—	—	84	20	80	108	114	—
13. Morocco	47	87	107	107	106	82	—	—	—	—	—	—	47	87	107	107	106	82
14. Egypt	73	98	128	90	67	69	—	—	—	—	—	—	73	98	128	90	67	69
15. Persia	—	54	53	41	—	—	—	—	—	—	—	—	—	54	53	41	—	—
16. Albania	78	208	39	45	148	138	326	212	99	77	76	92	—	248	2	60	32	46
17. Greece	—	19	31	33	48	32	1	—	—	—	—	—	1	19	31	33	48	32
18. Sweden	27	8	8	18	39	39	28	25	23	10	14	5	1	17	15	2	4	35
19. Union of South Africa	1	12	8	19	19	25	10	1	1	—	7	1	10	12	16	17	11	24
20. Australia	3	3	3	3	12	24	3	3	3	3	3	3	3	4	10	5	5	23
21. Estonia	—	4	6	10	3	—	—	—	—	—	—	—	—	4	6	10	7	—
22. Norway	—	7	8	3	1	—	3	12	1	1	1	1	1	3	12	6	87	2
23. Persia	11	3	3	3	5	3	3	3	1	1	1	3	11	3	3	3	5	3
24. Portugal	15	1	1	1	1	—	—	—	—	—	—	—	15	1	1	1	1	—
25. Turkey	164	52	87	—	—	—	—	—	—	—	—	—	164	52	87	—	—	—
26. Italy	228	90	261	304	215	141	30	29	34	53	76	157	186	61	227	251	139	16
<i>II. Importing countries</i>																		
1. Great Britain	—	5	8	9	7	9	1,425	1,732	1,720	1,869	1,951	2,140	1,425	1,726	1,713	1,800	1,945	2,131
2. Germany	18	7	12	20	11	9	1,602	38	840	1,096	1,480	1,708	1,583	37	928	1,476	1,460	1,699
3. Spain	4	—	—	—	—	—	(50)	113	160	131	173	239	46	113	168	131	173	239
4. Austria (Austria-Hungary)	(1,246)	—	—	10	12	14	—	65	113	113	154	170	587	65	113	108	142	157
5. Japan	—	—	—	—	—	—	—	312	258	195	172	146	47	312	258	195	172	146
6. Switzerland	—	—	—	—	—	—	134	120	115	118	117	110	134	120	115	118	117	110
7. Cuba	—	—	—	—	—	—	35	83	98	98	88	84	35	83	98	88	84	84
8. Argentina	—	19	34	27	11	7	16	13	20	43	58	75	16	14	16	14	16	14
9. Greece	—	—	—	—	—	—	3	11	37	25	25	31	3	11	31	25	25	31
10. Canada	—	1	27	22	19	13	53	62	49	26	31	31	52	3	35	27	3	18
11. Czechoslovakia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12. Latvia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	5,067	3,125	4,130	4,913	5,490	5,393	4,726	3,021	3,801	4,560	4,688	5,222	3,905	2,616	3,777	4,425	4,932	4,890
													3,654	2,541	3,440	4,072	4,220	4,719

Notes. — Figure not available. Less than 500 quintals. (1) Commercial years 1923/24, 1924/25, 1925/26, 1926/27. — (2) Average 1909/12. — (3) Commercial years 1922-23, 1923-24, 1924-25, 1925-26, 1926-27.

	1925/26 metric tons	1926/27 metric tons
Germany	21,448	41,267
Great Britain	11,137	8,123
Latvia	6,342	9,918
Other countries.	2,478	2,521
Total export	41,405	61,829

The export to Great Britain showed a decline in 1926-27, but in 1927-28 it once more rose. The total export for 1927-28 has shown a considerable increase.

There is at present a general improvement in the quality and hence in the value of Russian eggs, as special care is given to standardisation and control of exports.

The falling off the Russian export gave China the opportunity of considerably increased export possibilities the improvement in preservation and transport facilities making export much easier also. Before the war China occupied the third place among exporting countries; at the present time it is the country with the largest export and production of eggs. From earliest times there has been a wide diffusion of poultry keeping and much attention has been devoted to it and with the predominance of the small farmer and the stress laid on the production of vegetable food it has acquired a great importance. Chinese breeds of poultry have been introduced in large numbers into Europe and America for the establishment of present day breeds. Egg export consists largely of the export of egg preparations; the Chinese export in fresh and preserved eggs in 1927 is surpassed by the export of Poland, Denmark, Holland, Russia and almost equalled by that of Ireland.

The principal receivers of the export of fresh and preserved eggs before the war were Japan, Hong-kong, Siberia and to a small extent Macao, Singapore and the Straits Settlements. Japan is also the chief receiver in post-war times, although after the Asiatic lands the export to Great Britain and France is also now remarkable.

In pre-war times the export in egg preparations went predominantly to Europe; the largest receiver was Germany, which took nearly 50 per cent. of the Chinese export. At the present time the chief receivers are Great Britain and the United States. The export in eggs from China has steadily fallen off since 1923 and that of egg preparations since 1925. The detailed statement is as follows:

	Eggs (millions)	Egg preparations (piculs)
Average 1909-13	307	145
1923	1,101	753
1924	944	710
1925	785	1,004
1926	759	994
1927	603	756

The average import of eggs into China for 1909-13 amounted to approximately three millions and the imports during 1923-27 to ten, ten, two, one and three millions respectively. The imports come from Hong-kong and Macao.

The export of eggs from Poland began in 1921 and statistical returns exist from 1922. From 1 February 1929 the Polish export has been brought under fresh regulations and instructions have been issued as to grading, packing and consignment of the export. The observance of the conditions prescribed will be con-

trolled by special inspectors. If repeated breaches of the export regulations occur the exporter may be struck off the list of egg exporters. It is estimated that one third of Polish egg production is exported.

Table I shows the magnitude of the export ; there is a drop in 1928, the export only registering 545,606 quintals. Germany and Great Britain are the chief receivers.

In *Holland* thirty years ago the egg trade was confined to the country itself, and only small quantities of eggs were exported to Germany. An export on a large scale began about 1900. Owing to the excellent quality and market organisation the export has increased from year to year and in 1928 has almost reached the quadruple of the pre-war export, or a figure of 761,000 quintals. The export is mainly directed to Germany and Great Britain. The import into Holland has not yet reached the pre-war figure, but in 1928 it was already 96,000 quintals. The import came previously chiefly from Russia ; the Russian eggs were cheaper than the Dutch and were used in pastry making, and were also preserved for winter export into England.

The export of eggs from *Denmark* thirty years ago was still insignificant ; at the present time Denmark is the third largest exporter of agriculture products. The organisation of egg marketing is excellent and is in the hands of the " Dansk Andels Ægexport ". The chief receiver is Great Britain, and next comes Germany. A smaller export goes to Sweden, while the export to Norway fell in 1924 to almost nil. The import, apart from re-export, has passed from 729,000 score in 1924 to 918,000 in 1928. As regards export there has been a redistribution since 1923. Norway disappears as a receiver of Danish eggs, the export to Sweden fell from 1,453,000 score to 190,000 in 1928, the export to England fell from 37,293,000 score to 28,635,000 in the same time, and the export to Germany rose from 148,000 to 10,591,900 score. The following table shows the movement of the total export, a marked rise in comparison with the pre-war time up to the year 1924, a drop in 1925 and a rise up to 1927. A fall is again noticeable in 1928, and the small export to England and Sweden was not balanced by an increased export to Germany, while other countries came into the export field :

	Export in 1000 score	Import (apart from re-export) (1000 score)
Average 1909-13	23,812	972
1921	32,404	51
1922	36,755	249
1923	39,962	347
1924	41,624	729
1925	40,334	283
1926	41,610	130
1927	42,243	180
1928	39,450	92

The *Irish Free State* has an export trade in eggs with Great Britain only. The import of eggs and egg preparations is small. The data are supplied in " long hundreds " and are shown in the table as reduced to quintals.

Belgium was originally an importing country but since 1923 it has become an exporting area. The increase in the excess of exports over imports continues although there is a decline at the same time in exports. The export was formerly

mainly to France, later to a small extent to Germany, Great Britain, Luxemburg and Holland ; at present the order is Great Britain, Germany, Holland, Switzerland, France. The import formerly came from Russia, Italy, Holland, Bulgaria, Germany and some other countries, at present from Great Britain, Holland, France, Germany and a small remainder from other countries.

The import of eggs into *Yugoslavia* is unimportant ; the export is directed to Switzerland, Austria, Germany, Italy, Czechoslovakia and Great Britain.

The poultry stock of the *United States* is the largest of any country. In comparison with the internal trade the export trade in eggs is small, but not without importance. As is to be seen from the following table the importance of the different countries as markets for eggs from the United States has undergone considerable change. The following are the export figures in 10,000 dozens.

Importing country	Average 1909-13	1921	1922	1927	1928
Argentina	—	—	3	677	643
Cuba	430	1,502	1,145	1,147	610
Mexico	70	594	907	419	327
Panama	—	83	91	131	158
Canada	515	735	808	323	90
Great Britain	2	398	434	90	88
	1,098	3,320	3,462	2,871	2,019

The export to Panama is the only one which in 1928 was an advance on that of the previous year. The export to Argentina began in 1922 and increased up to 1927, in which year 80 per cent. of the egg import into Argentina came from the United States. Cuba, Mexico and Canada have in recent years increased their stock of poultry and thereby reduced their import. The export from the United States to Great Britain has declined during the same period. Canada is the chief receiver of the export of egg preparations, and there is also an export of these to Germany, Holland, Cuba, Jamaica, Mexico, Great Britain, etc. The import of eggs is inconsiderable ; it comes like the large import of egg preparations mainly from China.

The export of *Bulgaria*, *Rumania* and *Hungary* has advanced in recent years, the receivers being Germany, Austria, Switzerland and Czechoslovakia.

The importance of *North Africa* on the egg market has, like that of *South Africa*, increased. The *Morocco* export is directed increasingly to Spain, which in 1927 took 74,440 out of 81,500 quintals, while Great Britain took 6,206 and France 203 quintals. The export from *Algeria* is nearly all sent to France, while that from *Egypt* goes to Great Britain.

Before the war and afterwards up to 1925 there was a demand for eggs in *France* and it took the third place among the importing countries ; since 1926 it has been an exporting country. During the last few years there have been considerable fluctuations both in the exports and in the imports so that it is impossible to say much as to the future extent of the export. The prerequisites for an increase in exports exist.

Sweden and *Norway* are at present also exporting countries. In Sweden there is a constant tendency to a rise in export and a decline in imports. The position in Norway is less clear.

Italy occupies a special position among the countries mentioned. In 1926 it was still an important region of supply but in the last few years the export has declined, while the import has increased, so that in 1927 there was an excess of imports.

The export goes to Germany, Spain, Switzerland and in small quantities to Great Britain, Argentina, France and Belgium. The import comes mainly from Yugoslavia, Turkey, Poland and Albania.

The countries not mentioned have little importance for the trade in eggs. Among countries with a very small export are Albania, Finland, Syria, Mesopotamia, Siam, Indochina, Tunis and some South American States.

Importing Countries. — With the exception of *Switzerland* and *Canada* the import in all countries has advanced in comparison with 1909-13. The import into Switzerland has fallen off, the export is inconsiderable, the transit of eggs through the country is important. For Canada the growth of the export is noticeable, and the importance as a demand area is steadily declining. Of the other countries mentioned a decline in exports is to be noted in Japan since 1926 and in Cuba since 1924. Other importing countries are : in Africa, Rhodesia ; in America, Peru, Panama, Costa-Rica, Nicaragua, Honduras, Mexico, the West Indies, Newfoundland ; in Asia : Palestine, Macao, Dutch Indies, Indochina, the Philippines, Corea and also the foreign settlements in China. The import requirements of Oceania are small.

Of predominant importance for the world egg market are Great Britain and Germany. Of the total import figures shown in Table I the percentage for these two countries are as follows :

	Average 1909-13	1923	1924	1925	1926	1927
Great Britain	30	57	45	41	42	41
Germany	34	1	22	33	32	33
	64	58	67	74	74	74

The excess of imports over exports, expressed as percentages, was as follows :

	Average 1909-13	1923	1924	1925	1926	1927
Great Britain	39	68	50	46	46	45
Germany	43	1	24	36	35	36
	32	69	74	83	81	81

It is of special interest to note the course of the import trade into these two countries as also the places of origin of the imports. The far-reaching interrelations of the countries on the egg market are shown better on the tables of origin of imports than by means of lengthy explanations, and these tables also show the principal changes in the importance of the different countries in recent years. On comparison with the average figures for 1909-13 it is essential to note change in the frontiers of Germany and in the case of Great Britain the present inclusion of the import from the Irish Free State among the imports.

The egg export from England is small ; in 1000 long hundreds it was :

1923	35	1926	50
1924	63	1927	97
1925	71		

Before the war the export of eggs and egg preparations as also the import in egg preparations was merely shown by the statistical returns according to value.

TABLE II. — Imports of Eggs into Great Britain
(in 1000 Great Hundreds).

	Average 1909/13	1923	1924	1925	1926	1927	1928
Denmark	3,792	6,757	6,045	5,437	5,025	5,680	5,380
Poland and Danzig	—	1,285	731	1,068	2,722	3,388	2,562
Netherlands	719	1,435	1,235	1,692	1,865	2,360	2,724
Belgium	62	55	608	1,006	1,941	2,141	2,008
Russia	9,709	304	824	2,201	774	1,587	1,707
China	—	1,113	1,033	1,001	1,232	681	946
Egypt	829	1,209	1,624	1,162	672	669	810
Latvia	—	280	718	315	284	639	—
Sweden	321	67	78	127	222	548	—
France	976	1,338	60	231	589	430	1,659
Germany	547	29	16	110	244	241	—
United States	3	240	135	88	61	93	92
Italy	840	415	422	525	208	87	58
Argentina	—	264	464	463	146	31	—
Estonia	—	1	31	50	39	57	—
Lithuania	—	478	301	212	80	11	—
Austria	1,115	6	4	111	36	9	267
Norway	—	—	103	118	35	8	—
Rumania	—	25	44	11	6	7	—
Hungary	—	58	3	40	18	6	—
Switzerland	—	13	3	14	12	5	—
Yugoslavia	—	420	54	75	4	1	—
Morocco	300	209	323	88	3	1	—
Other countries	116	63	50	40	7	19	—
Total foreign countries	(19,150)	16,065	15,000	16,664	16,939	18,747	—
Irish Free State (since 1 April 1923)	—	(3,345)	4,687	4,567	4,428	5,052	5,177
British South Africa	—	135	233	230	260	372	—
Australia	—	113	74	142	335	122	—
Canada	5	378	271	245	156	42	83
Other British countries	—	10	15	9	7	6	—
Total British countries	—	(3,981)	5,279	5,201	5,186	5,593	—
Total imports	19,155	20,046	20,280	21,865	22,125	24,340	26,467
Re-exports	154	46	272	182	51	39	—
Imports for consumption	19,001	20,000	20,008	21,683	22,074	24,301	—

Imported egg preparations come mainly from China, while the export in these goes mainly to Ireland. The following table shows the external trade in egg preparations.

External Trade of Great Britain in Egg Preparations in 1000 cwts.

	Import (for consumption)	Export (not including re-export)
1923	456	6
1924	433	6
1925	479	8
1926	582	6
1927	626	4

The export of eggs is small and is directed to the adjacent countries ; imported egg preparations come from China with the exception of from one to two per cent. ; the export in egg preparations goes mainly to Czechoslovakia, Italy, France and Sweden. Other recipients are Finland, Belgium, Great Britain, Austria and Poland. The egg import into Germany in 1928 amounted to 1,787,669 quintals.

What conclusions can be drawn from the foregoing statement *for the future course of the world egg market*? It results from the development and changes in the dietary of the last few decades that the consumption of eggs has steadily increased and will further increase. In this connection it must not be overlooked that the egg

TABLE III. — *Imports of Eggs into Germany*
(in 100 dozens).

	Average 1909/13	1923	1924	1925	1926	1927
Netherlands	607	...	679	2,575	3,281	3,939
Russia	6,668	...	546	1,734	1,474	3,112
Poland	—	21	1,017	2,017	1,813	1,371
Denmark	74	...	1,026	1,032	1,111	1,328
Bulgaria	476	2	340	711	959	1,149
Yugoslavia	177	11	671	1,286	1,281	983
Belgium	29	—	7	164	435	846
Hungary	490	5	1,883	2,083	1,271	812
Czechoslovakia	356	10	536	850	862	776
Austria	—	2	180	679	753	710
China	—	1	184	180	138	242
Lithuania	6,346	3	221	403	167	166
Latvia	—	2	72	96	143	161
Memel	—	2	81	52	102	142
Turkey	—	1	199	187	81	81
Estonia	—	3	129	100	73	68
Sweden	148	—	19	36	42	57
Luxemburg	—	...	15	31	35	50
France	—	...	6	13	17	40
Switzerland	—	—	1	16	49	34
Egypt	20	...	3	6	8	16
Danzig	20	7	52	40	14	4
Other countries	10	—	—	—	—	—
Total imports	106	41	11	3	3	—
	15,532	85	7,934	14,327	14,140	16,275

Export of Eggs from Germany and External Trade in Egg Preparations
(in 100 quintals).

	Egg export	Egg Preparations Export	Import
Average 1909-13	46	138	484
1923	6	61	295
1924	49	73	465
1925	110	90	633
1926	12	98	660
1927	19	70	809
1928	45	108	878

belongs to the group of agricultural products, the consumption of which is fairly elastic, and consumption and price formation may be strongly influenced by economic development. It is to be hoped that on this side there may be no serious effects on the egg market.

The consideration of the export countries showed that in most cases there is an attempt at extension of export. An increased demand on the part of the importing countries would no doubt be met without much effort. It is however a question whether with more favourable economic development an increase in exports would come about of itself. In all the importing countries a great effort to increase home production is noted. Attention was called to the fact that this was leading to a diminution of imports in the case of Japan, Switzerland, Cuba and Canada.

The remarks that follow are confined to the two large countries of import, Great Britain and Germany. The initiation of an egg import of a larger scale coincides in both countries with the expansion of industry, the rise of large towns and industrial centres. The supply of eggs to these new population centres was undertaken as a

rule by other countries. By means of a good marketing organisation and standardised wares a safe market was built up and the product of the home farming was soon swamped. Import of supplies was taken for granted in these countries, and little was done to stimulate poultry keeping, which was one of the least progressive branches of agriculture. This is not to be understood as meaning that no progress has been made in the sphere of poultry keeping, but such progress was limited to a small section of poultry keeping and was there unimportant, while it was not extended to farms where the greater proportion of the poultry is kept. To-day there is a fundamental change. In the first place there is the attempt to improve the trade balances, which is increasingly being directed against the import of any commodities which can be produced on a large scale in the home country. On the other hand an endeavour is being made to provide for agriculture, which is prospering none too well, all possible sources of farming return. The possibility does exist of an extension of poultry keeping and in particular of an increase in laying capacity. There are of course difficulties to be overcome, such as the provision of capital, the diffusion of the necessary information on care and management of poultry, introduction of new forms of marketing. Of special importance is the instruction of the breeder, as poultry keeping is for the most part carried on small holdings.

Little fresh capital is being invested in this industry, where it is a question of improvement in the care of stock, of the right selection of breeds, and increase in laying capacity. A prerequisite of special importance for the greater participation of the home poultry keepers in the egg supply is the introduction of new forms of marketing which is undoubtedly a matter involving many difficulties and can only be effected gradually. The main exporting countries are thoroughly progressive in what is known as standardisation. It is a fact that in an importing country where there is no great spatial separation between producer and consumer, or where numerous channels link the two, standardisation is made much more difficult, while for export countries standardisation is the prerequisite for an increased and lasting export and is also easier to introduce. The export trade makes necessary a concentration of production so that products may be supplied in bulk to the consuming areas, usually over a definite number of markets, and in this way standardisation, packing and grading come about naturally.

In the last few years poultry keeping has made remarkable progress as the result of a number of measures taken alike by the authorities and by private individuals. Mention can only be made here of the introduction of national egg marks. England goes still further and has issued orders for the stamping of imported eggs. Increase in egg production has not yet led to a decline in the egg import, on the contrary in 1928 there was a larger import into both countries. A comparison between the imported quantities and the home production shows that a quite considerable increase in production is still required if self supply conditions are to be reached.

H. B.

FARM ECONOMICS

The Use of Machines as a Condition for the Increase of Agricultural Production.

All advance in world economy is traceable to the increase in productivity of the individual unit. In proportion as separate economic groups became able to increase the quantity of food commodities produced by them, other activities not of an agricultural kind but meeting the other requirements of life became feasible.

The possibility of the production of larger quantities of food primarily depends of course on the area at the disposal of the individual, the natural conditions of the locality and the extent to which technique has been applied. In addition to these factors many others of a psychological or social kind have an influence.

Corresponding to the varying degree of importance attaching to these factors in turn there is a marked variety in economic type in different parts of the world and a comparison of two such forms, China and the United States, which represent extreme types, should yield results of some interest.

TABLE I. — *Productive Areas, Arable Land, Total Population and Distribution of Population, 1924-1927.*

	1924-1927	
	United States	China
Total population (millions)	119	440
Agricultural population (millions)	29	350
Cultivable area (million hectares)	394	283
Cultivable area per inhabitant (hectares)	3.2	0.64
Cultivable area per agricul. inhabitant (hectares)	14	0.80
Area actually harvested (million hectares)	150	73
Area actually harvested per inhabitant (hectares)	1.3	0.16
Area actually harvested per agric. inhabitant (hectares)	5.2	0.21

Some additional special figures may be given for China.

TABLE II. — *Utilisation of Land in Chinese Farm holdings in Szechwan (1926).*

	Chengkü Plain				Mount Omei
	Owned farms (1)	Partly owned farms (2)	Rented farms (3)	All farms of the plain (4)	Rented farms (5)
Average area of farm (hectares)	0.50	4.20	1.85	3.25	0.52 (1.00 0.20)
Persons per farm	11.5	10.4	8.3	9.9	6.5
Area in ha. per person	0.40	0.40	0.22	0.33	0.08
Proportion of agricultural income in total income.	% 99	% 99	% 96	% 98	% 86

For China proper (excluding Tibet and Mongolia) a farm area of 0.70 hectare has been established as the average in the rice districts; in the Northern provinces where wheat and millet are grown twice that area is reported. The rented farms are the relatively smallest productive areas, but at the same time considerable importance attaches in China to this form of land tenure. As a matter of fact these tenant farmers have a constant struggle with starvation, and inevitably so seeing that the area that can be worked on these farms by one member of the family is only one sixtieth of the area available for one member of an American farming family. On the other hand, as may be seen from Table II, there are some supplementary sources of income.

In connection with the above comparative statement it is a striking fact that in China, while there is a relatively very limited area of food cultivation, a large part of the arable land is lying unused and waste, and this in spite of the fact that the natural conditions of such districts nearly correspond to those of the North American "Corn Belt". In Chinese economy a characteristic concentration of the population in certain districts is noticeable.

The comparison of the production capacity of the two countries may be supple-

mented by figures taken from trade statistics. During the last few years China was obliged to import 5,000,000 piculs (1) of wheat flour and about 15,000,000 piculs of rice.

The main agricultural exports of China are : tea, cotton, beans (cattle cake and oils), sesamum, rapeseed, linseed, ground nut oil and eggs. In the United States there has not been in the last few years much difference as regards value between the agricultural imports and the exports, but in good crop years there is of course a considerable excess on the export side. The United States farmer can feed on an average nine persons in the States and one in other countries ; in China on the other hand from one unit of labour food for at most 2 to 2.5 persons can be provided taking into account the labour of women and children. The productivity of the unit of area is a different question. In the most densely populated districts of China there are as many as 6,900 persons to the square mile, although these figures no doubt represent a maximum which is only reached in certain cases. The relative productivity per unit of area has importance whenever there is a reduction of food crop areas, but so long as any surplus land is available, the relative productivity of the individual must rank first. With increasing demand there is still much room for the application of intensive methods to American farming and yield capacity per unit of area.

The concentration of the Chinese population on certain tracts of country and the lying waste of great areas of cultivable land must be attributed to the following causes.

Settlement began at the most fertile points, the river deltas and along the course of rivers, which at the same time were the most convenient trade routes. The main product and food stuff, rice, gave the highest yields in these localities and could feed per unit of area a greater mass of consumers than any other product. In some of the Eastern provinces (Kiaochow) potatoes take the place of rice. Both crops are characterised by the immense amount of labour, and in particular hand labour, which they require and can absorb. In consequence of the climatic and other natural advantages of these districts the greater part of the manual labour applied can be made so productive that the limited area can support the working population. In the northern provinces rice is replaced by wheat, which has an essentially more limited food value per unit of area. The area under millet and sorghum taken together is as large as that under wheat, *viz.*, 20 per cent. of the whole arable surface. These crops have lately had a formidable rival in the soya bean which is a form of albumen approximate to animal food in physiological effect, and being cheaper is a satisfactory substitute. As regards livestock production cattle are primarily kept as work animals ; milk and beef are consumed in the large population centres but only in small quantities and often only by foreigners. Conditions are much more favourable to a wide distribution of the pig, as an indiscriminate feeder, and poultry are raised in fairly considerable quantities for market and export. Thus the whole tendency of the development of production is to produce as far as possible what can be directly used by the human consumer and not what goes to maintain the fodder supplies of the large stock breeder. In the rice districts a second, third and even fourth crop is normally obtained, usually taking the form of another cereal crop, barley, or rape. In the climatically less favourable districts, where maize and potatoes are the main crops, green vegetables can be planted twice a year.

It is of the first interest for our purpose to obtain a correct idea of the quantity and type of the energy applied to agriculture in the two countries under comparison.

(1) 1 picul = 133.3 English pounds.

Energy applied to agriculture (in horse power)

	United States	China
In the form of draught animals	20,000,000	25,000,000
In the form of machines and highly organised implements	33,360,000	1,000,000
In the form human energy	620,000	20,000,000
	53,000,000	46,000,000
Horse power per unit of energy in agriculture	6 $\frac{1}{4}$	0.40
Cultivated land per H.P.	2.8 ha.	1.6 ha.
H. P. per hectare	0.36	0.63
H. P. per farm	8	0.75
Human labour per ha.	0.04 H.P.	0.30 H.P.

Thus in China almost double as much energy is applied per unit of area as in the United States, while the total amount of hand labour per hectare is nearly as much as the total energy applied by the American farmer per the same unit. The Chinese farmer applies to the unit of area seven and a half to eight times as much hand labour as the American farmer. It is an accepted fact that if the American farmer were confined to his hand labour only, he could only bring under cultivation 4 per cent. of the area he now cultivates.

In connection with the above comparison it should be noted that work animals are mainly to be found in the Northern and Eastern provinces of China, while in the rice districts not all the farms have work animals. Thus of the farms under survey of the Chengtu Plain (Szechwan) only 75 per cent. have a water-buffalo, and accordingly the proportion of human labour rises.

Agriculture can only be maintained on a basis of preponderance of manual labour in regions where owing to favourable natural conditions there is a continuous plant growth requiring constant application of hand labour. This accounts for the dense population of the rice regions of China.

Increase of population, the peculiarity of the Chinese household where the older and younger generations remain as much as possible together, the poor conditions of intercourse and transport, all tend to make population still denser on these areas, so that the point is reached where apart from technical improvements, such as plant breeding and plant protection, a limit is set to the possibility of supply. At the present time in the event of bad harvests or floods death by starvation may overtake whole provinces.

Nearly one half of the Chinese farming population is engaged in physical labour. In the rice region as far as the seasonal requirements of the crop are concerned one man can work 40 ares, in the wheat and millet regions about 80 ares.

The digging of 40 ares has been shown on an experimental basis to take 15 man-days. On farms of 60 to 80 ares five to six persons must be maintained who require 60 to 80 bushels of wheat or food of other kinds. In the semi-arid provinces of the North the wheat crop is on an average 10 bushels per 40 ares, and to produce the quantity required for food, it would be essential to place under cultivation more land than could be worked by the manual labour available. In the rice districts or anywhere where either a second crop is possible or the average yield is higher the required quantities can be raised.

With manual labour only a small area of this kind can be cultivated which in proportion as natural conditions are unfavourable does not yield enough to maintain

an individual. As already stated, technical improvements, among which should be reckoned the method lately reported from Canada by which the ripening period may be shortened, may increase supply possibilities, but in the end a limit will be reached of human powers of accomplishment.

In order to achieve the necessary production quantum there must be an extension of the area farmed and this can only be brought about by using work animals, improved implements or motor power. The extension of the crop must be relatively considerable since in addition to making up the required quantity of food the costs of the implements, etc., including depreciation and interest, must be covered. Taking a wide basis, the cultivation carried out on similarly situated tracts of land by the American farmer, the land now lying uncultivated in China would afford nourishment for 40,000,000 farm settlers with some allowance also for the industrial element in the population. By applying more intensive methods the numbers would be correspondingly increased.

The fact that human labour is so plentiful and accordingly so very cheap in China may make the use of machinery and implements seem uneconomic. It should be noted however that in the long run it is not the price of labour which is the criterion but its relative productivity, considering also that the price of labour cannot fall below a certain minimum, that of the maintenance of life. So soon as nature sets a limit to production, the possibility of application of human labour is limited; a point thus occurs at which, speaking generally, only a minimum of human labour continues to be economic and also technically possible.

A prerequisite for the development sketched above is an extension of the network of trade. Up to the present time it is often impossible in the interior of China to transport surplus rice more than 100 kilometres, so that actually in the coast districts American rice can compete with the home product, in spite of the long haulage and the low average of the American crops. Finally the general level of education, the technical skill of the Chinese farmer must be raised: but what is primarily essential is credit for installation and establishment of new settlements. The provision of this credit must now be briefly dealt with.

For the great mass of the people of China it would appear that there is little possibility of building up capital. The surveys of Chinese farms already referred to show that after payment of farm expenses and food purchases there were per farm the following sums available which scarcely afford a basis for building up of capital.

TABLE III. — *Surplus Receipts and Percentage of Total Outgo in Rent and Taxes.*

	Chengtu Plain				Mount Omei
	Farms owned	Part-owned	Rented	Total	Rented farms
	\$	\$	\$	\$	\$
Surplus receipts per farm	804	590	207	540	7.2
Outgo:	%	%	%	%	%
(a) taxes	13.6	8.0	—	16.5	5.6
(b) rent	—	36.3	61.0	36.3	7.3
Total taxes and rent in % of total outgo . .	13.6	44.3	61.0	52.8	12.9

In considering this table it should be remembered that the Chengtu Plain represents one of the richest and most fertile districts of China, and there is no mortgage indebtedness. The farms on Mount Omei are representative of poor regions; taxes and rents are low because no more can be extracted from the tenant farmers who are always engaged in a struggle against starvation. Conditions as regards tenants are

characteristic, as the greater number of agriculturists in China are tenant farmers. Generally speaking and on the less favourable tracts the tenants make only a bare living. They pay nearly 60 per cent. of the farm outgo or 53 per cent. of the gross receipts (or gross return) to their landlords for rent. The bare land, the so-called "farm bottom" belongs to the landlord, while the farm surface is the property of the farmer who cultivates it. The market value of the surface is generally from 30 to 50 per cent., sometimes 100 per cent. of that of the farm bottom. The incoming tenant has to pay the outgoing tenant for this part ownership, or cultivating right. The landlords are for the most part town dwellers who look upon land as the safest investment of wealth. The owners of the land have to be responsible for payment of taxes, which are mainly levied as land taxes, and in addition in these recent years of civil war there have been contributions of an extraordinary kind; in normal times there is a disproportion between the liabilities of the landlords and those of the farmer tenants which should be corrected.

Borrowed money for other purposes than for purchase of land is very dear. When money is borrowed on the farm surface under the most favourable conditions the interest ranges from 20 to 25 per cent. and where the security is not so good the interest is as much as 30 to 40 per cent. The necessary capital for the settlement of the still uncultivated regions referred to must when required be raised by means of a State loan of the new National State and by the industries concerned, viz., the agricultural machinery firms, etc. The recently founded Land Bank at Nanking will have to devote attention to this problem. In view of the comparative frugality of the Chinese peasant farmer these settlements should be able to hold their own in world trade, the more so as there is already a home demand for food that is not adequately met.

In some such way as here indicated it may prove practicable to transfer any future surplus population of China to the lands which at present are lying waste. With a surplus production of food stuffs and a higher productivity due to the use of work animals and machines an increase in industrial production can be brought about in the form of elaboration of products at present exported in the raw state (cotton, silk, ores, skins, oil residues, etc.). In this way it will be possible for both agriculture and industry to find strong home markets, which means the stimulation of the whole national economy.

W. B.

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ECONOMIC AND SOCIAL CONDITIONS OF THE AGRICULTURAL CLASSES

Some Aspects of the Country Life Problem in New Zealand (1).

1. — *Introductory.*

Generally speaking, a country-life movement is a conscious and more or less co-ordinated attempt to improve the social environment of the rural citizen. The centre of interest of such a movement would be "the purely human side of farming, with emphasis on *life and living*, on *consumption and expenditure*, as well as on production and distribution; with emphasis on *health, comfort, contentment, facilities for sharing in the world's commodities, skills, services and wisdoms*" (1).

In the sense defined there is no country-life movement in New Zealand. It is necessary therefore to discuss in broad outline such aspects of country-life as are relevant to the problem, and the various organisations, associations and institutions through which country dwellers express some common purpose; and to indicate the centres of community interest which already exist; for it is largely on the basis of such organisations that any co-ordinated effort to improve the social environment of the countryside must be built, while existing centres of community interest provide the focal points round which must be integrated the future social developments in country districts.

2. — *The General Background in New Zealand.*

It is well known that the organisation of the rural population into groups, and the development of institutions to satisfy common needs are, in general, more difficult than the similar problems among urban dwellers. Further, apart from such activities as centre round the country church and school, most communal effort is economic or politico-economic in significance. Rural community organisations in which the interest is human, cultural, or social are, by comparison, fragmentary and lack vitality, though organisations which are primarily economic or political possess other social values as an important by-product and must often provide the centre for communal endeavours of a wider sociological importance. Despite certain conspicuous exceptions, the above generalization seems broadly true of most countries of western civilization.

It is scarcely possible in a short space to expand or substantiate these opinions (which seem particularly true of young countries), but it is important to indicate the special difficulties in the way of a "country-life movement" in New Zealand.

As a nation, New Zealand is very young indeed. Discovered by Tasman in 1642, and re-discovered by Cook in 1769, it is not yet one hundred years since New Zealand began to be systematically colonized. The first farm was established in the Bay of Islands in 1830 by the Reverend Samuel Marsden. The early history of land settlement thus instituted is marked by misunderstanding and conflict between natives and settlers, and disputes between the claimants for land and the Colonial Government. With the appointment of Sir George Grey as Governor in 1845, land settlement became more effective. He purchased large areas of land from the natives which were sold at a uniform and low price of 10/- per acre, reduced shortly before his departure in 1855 to 5/- per acre. Cheap land laid the basis for

(1) Owing to exigencies of space this article could not be published as originally contributed by Dr. Beishaw and has been somewhat condensed.

(2) C. J. GALPIN, "The Country Life Movement in the United States", *Internat. Review of Agric. Economics*, July-Sept., 1923.

rapid settlement. Naturally, settlement was most rapid in regions of virgin fertile prairie such as the Canterbury plains, which involved least difficulty in clearing and which incidentally suffered least from conflict with the Maoris, rather than in the swampy or heavily timbered provinces of the North Island which were also most seriously troubled by native warfare. Such open country was eminently suited to sheep farming or wheat growing in which the economic unit tended to be large. Wheat, wool and hides were the main exports of agricultural or pastoral origin.

With the introduction of refrigerative methods of transport in 1882, it became possible to export frozen meat and dairy produce and a new trend was given to development. The country was found to be excellently suited to pastoral farming and the dairying industry grew rapidly in importance. In point of value of exports, the sheep industry is still the most important, with dairying a close second. The following table giving the number of workers, including working proprietors, indicates however, that the dairying industry is the most important from the point of view of our subject, since it directly supports the largest rural population :

Persons employed on Farms, 1925-26.

	Males	Females
Agricultural	11,265	2,428
Dairying	50,576	22,794
Pastoral and Unspecified	40,930	9,458
	102,771	34,680

Further, the dairying industry is growing and will continue to grow in importance in the future relative to other kinds of farming.

The significance of these facts to the problem of country-life consists in the type and scale of organisation in dairying. The representative dairying unit is predominantly the family farm employing very little hired labour. The demand for labour is more continuous than in most types, especially as grass is the main crop, and the growth of supplementary crops is small. Further, dairying districts are comparatively closely settled and naturally the extension of dairying will make for closer settlement in the future, owing to the relatively small size of the representative unit. Further, for a number of reasons which we cannot enlarge upon, dairying lends itself more readily to co-operative methods than other types of farming, and an efficient co-operative system is well established.

In general, pastoral farms breeding sheep and cattle are on a much larger scale, and are predominant in districts of light land and hilly or undeveloped country unsuited at present to dairying or arable farming. Where conditions of soil and topography are suited, one expects these to yield to dairying as transport improves and land development proceeds.

Farms in the group classified as agricultural will generally be mid-way in size between the pastoral and dairying groups and consist largely of mixed farms in which the dominant crops are products of arable cultivation. These are usually in well settled districts of moderate rainfall. It must be noted, however, that many so-called pastoral farms will approximate to this class, since they are frequently mixed farms, mainly pastoral, but having some arable cultivation.

Hired labour is relatively more important in the pastoral and agricultural groups than in dairying, and the demand for seasonal labour for shearing and

harvesting is also important. This seasonal labour is migratory and consists largely of a special class which moves from shearing to harvesting and occupations in the freezing works at the appropriate seasons. Such a migratory population presents a serious problem in the social life of the country; but it is a general national problem rather than a problem of the settled rural community, since a great deal — probably the bulk — of this kind of labour is drawn from the towns or from Australia. Hence we shall not be concerned with it in this article.

Nor need we concern ourselves overmuch with the large pastoralists or agriculturalists. These have wielded an important influence in the social and political life of New Zealand, and are still far from being a spent force; but their power and importance are definitely on the wane. The centre of interest to the rural sociologist must be the family group cultivating unaided or with little hired labour, the small or moderate holding. The large farmer, often educated in the secondary school or university in the city, or occasionally at Oxford or Cambridge, is in a more favourable position to provide for himself a satisfactory cultural and social life than is the "family farmer", for whom effective community developments are necessary to satisfy both his economic and his social needs.

Speaking generally, the New Zealand Government has encouraged the freehold system of tenure, by the alienation of public lands, while economic influences have made for the occupying ownership of such lands, rather than farm tenantry.

The tenure of land in 1926-27 is as follows:

	Acres
Freehold occupied by owners	20,340,551
Leased from private individuals	1,825,031
Leased from Public Bodies	735,027
Leased from Maoris	1,570,660
Crown Leases and Leases under various tenures.	19,116,429
<i>Total occupied area</i>	<i>43,587,698</i>

Although somewhat less than half the occupied area is farmed under occupying ownership, the remainder, particularly Crown lands, consists largely of light or undeveloped areas, so that economically and socially, occupying ownership is of pre-dominant importance.

There has been no frontier comparable with the westward-moving frontier line of the United States. Rather, settlement has radiated from strategic points. The large holdings of the first settlers were gradually subdivided as population increased and transport improved, or the area of alienated land was gradually extended. The development of small centres to provide community services naturally followed, the tiny *township* clustering round the school, the church and the store. While the graphic stories of wagon trails do not lighten the pages of our history with conspicuous adventure, yet the life of the New Zealand pioneer has been not less arduous than that of his American prototype. The longdrawn struggle with the semi-tropical forest and the swamp, has left its mark on our national life and character. The isolated group carving a farm out of the intractable wilderness has been forced to display similar qualities of fortitude, tenacity, and resourcefulness.

In many districts the pioneer stage is not yet completed, but over a large area of the country, established farms, cleared, drained and fenced predominate. The time has passed when the virgin fertility of the soil can be drawn upon without replenishment, and scientific methods of cultivation, manuring and farm manage-

ment are steadily progressing. In such districts the time should soon be ripe for a country-life movement in the sense in which I have defined it.

The pioneer, living in a temporary "shack", with no amenities, and engaged in the arduous task of breaking in the land has no leisure for cultural things, while difficulties of communication make it virtually impossible to organise for their provision. In established areas, the material difficulties in the way of organisation are much less. The farmer has more leisure, though he still by no means suffers from a surfeit of it; roads are, in most cases at least tolerable, while the rapid development of motor transport of recent years has brought most farmers in such established districts within fairly easy reach of centres of population. Such conditions, together with the existence of numerous schools and churches make it possible to lay at least the foundations of a country-life movement. There are, however, still certain difficulties of a non-material sort which must be overcome before such a movement can progress very far.

In the first place, New Zealand is still not yet passed through the pioneer stage of mental development, even in the towns and established rural districts, though signs are not wanting that the transition to a more mature national outlook is being effected. The representative New Zealander is intensely individualistic. His outlook is extremely practical and utilitarian and he has very little appreciation of the significance as avenues of expression and methods of enjoyment of those things which we somewhat vaguely describe as cultural. His attitude is a mixture of proud complacency over the phenomenal progress which his country has achieved and sensitive watchfulness against criticism of his institutions and methods of doing things. This attitude is general and is not confined to country districts; but in respect of the country, it is re-inforced by a certain suspicion against the urban dweller; and there are traces of a town v. country cleavage, which appears to arise out of a belief in the divergence of economic interests of town and country. Such conditions are not, of course, confined to New Zealand; but it is inevitable and understandable that they should be well marked in a young country such as this. It is apparent that they are likely to offer initial difficulties to any movement of a non-utilitarian nature, and to effective co-operation between urban and rural communities.

Secondly, the system of land transfer in New Zealand offers little hindrance to the sale of land, while the buoyant prosperity which the country experienced during the years 1895-1920 made possible the frequent transfer of land at enhanced values. Under such conditions, the rural population has been, and is, very mobile. An essential condition of effective community development is a stable population, and the instability of our farming population is a factor which has, in the past, retarded the development of any strongly marked local patriotisms. Present indications point to a much greater degree of rural stability than has been evidenced for the past two decades at least; but the country community in New Zealand is far more mobile than are similar communities in Europe and has had less time to develop local traditions and loyalties.

Thirdly, farming industries have suffered from marked depression during the past seven years. This has naturally concentrated the attention of the farmer on economic issues. While it has also made him more receptive of new technical and economic ideas, economic depression is likely to render more difficult the inception of non-economic movements.

To summarize then:

- (1) There is no conscious and co-ordinated movement in New Zealand to

develop the "social" and "cultural" as contrasted with the economic or political life of the rural community.

(2) As in other countries, there is the initial difficulty of combining the scattered and loosely integrated units into associations and organisations — or of establishing institutions — for the expression of a common and continuous purpose.

(3) New Zealand has not yet completely effected the transition from a pioneer stage of development, and the outlook of the country as a whole is still predominantly utilitarian. The recent depression in agricultural industries has concentrated attention on economic issues.

(4) The rural population is very mobile by comparison with Europe or Great Britain, though a much greater degree of stability among rural populations is likely to exist in the future.

(5) In so far as the problem of rural organisation is concerned with the furtherance of a "country-life movement", the agricultural community may be divided roughly into three groups:—

(a) First are large scale pastoralists and agriculturalists who are in a position to satisfy their economic and social needs with tolerable ease.

(b) Second are "back-block" settlers living in districts which are still comparatively isolated, in which the social amenities are still largely lacking, and community developments are small and fragmentary. Such districts are yet in the pioneer stage and farms are still "in the making".

(c) Third are the most important group cultivating medium-sized or family farms, well established on the whole and within reasonable distance of centres of population. It is in this group that the most vital organisations are to be found and from whom in the main must be expected progressive social movements in the future. Amongst these is neither the degree of self-sufficiency of the large station-owner, nor the hindrances to community organisations which face the back-block pioneer.

It is not suggested, of course, that New Zealand farmers can be divided into three homogeneous groups rigidly separated from each other by the characteristics described; or that they can be separated geographically into districts sharply contrastable with each other in terms of scale of operations, stage of economic and communal development or degree of social self-sufficiency; but for purposes of broad comparison, the classification adopted seems the most logical and useful.

3. — *Distribution of Population.*

Before discussing specific aspects of the country-life problem, two other general conditions of importance must be touched upon: the distribution and density of population, and the nature of transport facilities. The census of 1926 showed the population of New Zealand exclusive of Maoris, to be 1,344,469. The Maori population, including half-castes, totalled 63,670.

The following table shows the percentage of population in rural and urban areas, the definition of urban area being given in the first column:

Census	Definition of Urban Area. Population of over :	Urban Population per cent.	Rural Population per cent.
1881	1,000	37.66	62.34
1891	1,800	38.84	61.16
1901	1,800	39.13	60.87
1911	2,050	42.98	57.02
1921	2,500	48.77	51.23
1926	2,750	58.58	41.42

The table reveals evidences of the so-called "urban drift" common to so many countries: i.e. of the more rapid growth of urban than rural population.

Of the total population exclusive of Maoris (1926), over 517,000 or about 38 per cent. lived in the four main cities: Auckland, Wellington, Christchurch and Dunedin and their suburbs. In addition were ten urban areas with a population of from 10,000 to 27,000 and twelve with a population of from 2,750 to 10,000. The method of classification of the remaining small centres of population of from (say) 500 to 2,750 people makes it difficult to determine their number; but they probably account for a population of about 200,000. It is important to note, however, that over 50 % of the people live in centres of population of less than 10,000, and that a large number of small towns or villages provide economic or social services for the farming community proper.

The density of population for New Zealand as a whole is 13.02 persons per square mile. It is difficult, however, to convey a clear idea of the differences in density from county to county; but owing to topographical features, such variations are considerable.

(a) *Rural Health.* It is difficult to set up a standard by which to measure the health of a community. Nevertheless, a comparison of death rates per 1000 of mean population lends support to the reputation which New Zealand enjoys, as being one of the healthiest countries in the world. The crude death rate per thousand in New Zealand was 8.74 in 1926 as compared with 9.42 in the Commonwealth of Australia, 9.7 in the Union of South Africa (1921-25) and 12.1 in England and Wales (1922-26) and the United States (1920-24). The following figures show further, that the death rate has fallen remarkably during the past fifty years:

Year	Crude Rates	Standardized Rates (*)
1875	15.92	17.80
1885	10.67	12.86
1895	9.91	11.22
1905	9.27	9.60
1915	9.06	9.09
1925	8.29	7.78
1926	8.74	8.17

(*) For an explanation of the method of computing the standardized rates see N. Z. Official Year Book 1928, p. 145.

The low death rate in New Zealand is due, in the main, no doubt, to the unique climatic advantages which the country possesses, and to the high standard of living of the people. It is due also, in large measure to the excellent provision made by the State and local authorities for the prevention and cure of disease, and the very fine work of the Department of Health and its officers.

The crude death rate in the four main centres in 1926 was 9.45 as compared with 9.00 in the ten largest "secondary" urban areas. Since the rate for New Zealand as a whole was only 8.74, it follows that the death rate in the smaller towns and rural districts combined is appreciably less than in the larger urban centres.

The crude death rate is not, of course, a perfect standard by which to compare health conditions. In addition to difficulties of a statistical nature, there is the fact to be remembered that not all maladies are fatal, and many ailments may not appreciably shorten life. Nevertheless there is no room for doubt that the health standard in both urban and rural areas in New Zealand is very high. Official

statistics of disease do not usually differentiate between urban and rural areas. In some respects, notably as regards deaths from puerperal diseases, rural areas compare unfavourably with urban; but it seems probable that the lower death rate referred to above is indicative of a somewhat higher standard of health. In so far as conditions of domestic sanitation and hygiene may be inferior in the country, they are offset by the more healthy external environment and remoteness from centres of population in which disease spreads more rapidly.

Owing to the relative sparseness of population and the greater difficulties of transport, the problem of providing medical attention and hospital facilities is naturally more acute in rural than in urban areas. However, the Department of Health recognizes the special disabilities under which country people suffer and makes efforts to overcome them. There are in all (1925-26) 124 public hospitals in New Zealand, a large proportion being situated in small centres of population. These are controlled by Hospital Boards and financed mainly by State contributions, levies on local authorities and hospital fees. Competent observers from other countries describe these institutions as being highly efficient. Special attention is given in New Zealand to infant welfare, and 53 public hospitals, of which a large number are outside the main centres of population, provide accommodation in midwifery cases. The Plunket Society, which is a voluntary organisation receiving some financial assistance from the State, controls a large body of nurses, some of whom are stationed in country districts. While several countries are able to show a smaller death rate from puerperal causes than New Zealand, yet the infantile mortality rate is the lowest in the world, and has been steadily falling since 1880.

Much useful educative work is done by the provision of free pamphlets, articles in the press, lectures, and displays in shows on matters relating to personal hygiene and health, farm sanitation, water supplies, production of milk etc.

Finally, medical officers and nurses of the Department of Health periodically examine every school child in New Zealand, while dental clinics are being established for children from both town and country schools.

While the settler in remote districts still labours under severe handicaps, these are steadily being removed by the various methods touched on above.

(b) *Rural Housing*. It is exceptionally difficult to generalize on the subject of rural housing. Statistics on the subject are difficult of access and there have been no social surveys of rural districts that I know of. Hence one must rely very largely on general impressions. Since timber has been and still is the cheapest material, almost all farm dwellings are of wood, roofed with corrugated iron. Of recent years, the "bungalow" has been the predominant type erected, but it is seldom that a rural home has any pretensions to external beauty or architectural attractiveness.

There is, of course, much variation in style and degree of convenience. The tin or wooden shack of the pioneer is small and often lacking in elementary convenience and is comparable with, say, the cottage of the French peasant in these respects, though not in external attractiveness or durability. At the other end of the scale, the "homestead" of the large station owner leaves little to be desired. The farmhouse of the "family farmer" may lack the refinements and convenience of the "middle class" in the towns, but would in most cases compare very favourably with that of the urban artisan, who is better off in this respect than the corresponding class in Great Britain.

The "representative" farm house in an established district would probably

have five or more rooms of comfortable size, a bathroom and a " wash-house ". A large number are lighted by electricity or home-generated incandescent gas. Increasing areas are becoming supplied with electric power which is used both for lighting and to drive milking plants and other standing machinery. It seems likely that much of the drudgery of housework will be removed through the use of electrical appliances in the future ; but neither in the towns nor the country has this developed very far to the present.

In the absence of specific information by means of surveys or statistical enquiries, this extremely vague and general statement must suffice.

4. — *Transport.*

For a young country, the transport system is good ; but again, of course, wide variations in conditions, dependent largely on the topography of the country and the density of population, exist from county to county.

The total length of formed roads is nearly 47,000 miles, of which about 40,000 are surfaced with bitumenous or cement concrete or gravel. In addition are about 21,000 miles of bridle tracks or unformed legal roads. There are 3,164 miles of State railways open to traffic. In general, the rivers are too rapidly flowing to be fit for navigation except near their mouths, the only rivers navigable for any distance being in the North Island ; but there are about fifty ports providing for deep-sea or coastal traffic. In view of the narrowness of both islands, distances to railhead, river or port are seldom great ; but the mountainous nature of a great part of the country renders certain districts extremely difficult of access. Such areas are naturally sparsely settled. The more closely settled areas, particularly in dairying districts, are well provided with main highways offering ready access to port or railhead, though even in such districts, the by-roads may be unpaved and difficult to traverse in winter. The state of the by-roads depends very largely on the proximity of suitable material for surfacing. In the South Island, the numerous shingly river beds provide abundant roading material. In the North, it is frequently difficult to provide such material at a cost sufficient to warrant the surfacing of by-roads.

Apart from the sparsely settled districts not yet out of the pioneer stage, in which the necessity for fording treacherous rivers combines with bad roads to make access difficult, it is a safe generalization to say that the transport system presents few barriers to community development. With the increasing importance of motor transport, and the pursuance of a vigorous policy of road improvement, such difficulties as exist are being steadily overcome.

These conditions — the existence of a large number of small centres of population and of a transport system which is good in view of the youth of the country — mean that the farmer is tolerably well catered for, as far as economic services are concerned.

While he is necessarily less advantageously placed to trading centres than the town-dweller, it can scarcely be said that in most districts the problem of obtaining economic goods and services is acute. There has been comparatively little development of co-operative distributive societies for the purchase of requisites, though certain dairy companies, notably the large and efficient New Zealand Co-operative Dairy Company, have developed such services. Nevertheless in the more established districts farmers are well catered for by the van of the country storekeeper, butcher, or baker, or are able to obtain supplies by rail from large city traders, or by visits to the readily accessible smaller towns.

5. — *Education.*

(a) *Rural Education.* — Out of 196,000 children under primary instruction in 1926, about 70,000 were in attendance at definitely rural schools, which number about 2,200 out of a total of 2,600 primary schools. Of these rural schools, 998 have only 20 or fewer pupils, while 534 have from 21 to 35 pupils only. Hence there is necessarily isolation of the teachers and little scope for development of corporate life in school. Consolidation so far as transport facilities allow is in progress but cannot be quickly achieved. A new and more elastic syllabus has lately been introduced with wider reference to the child's environment and to development of enjoyment of country-life and of the power to face it in the spirit of scientific adventure. The work of the resident teacher is being supplemented by that of itinerant specialist teachers and health officers. There are also 14 "organising" experienced teachers who visit country schools in turn and advise on methods, etc.

(b) *Secondary education.* — The general tendency of secondary education is academic. Agricultural science and domestic science are included in the curriculum of a large number of schools, both technical schools proper and technical high schools. But the proportion of boys and girls taking these courses is not high: out of a total of 7059 pupils attending such schools in 1926, only 355 boys were taking agricultural courses and only 907 girls the household management courses. To most of the remaining secondary schools the proportion is even smaller. There is however one wholly agricultural school, Wesley College, situated about 30 miles from Auckland which is doing excellent work, and justifies careful consideration for the future development of similar schools. At three or four other schools, Fielding, Rangiora, etc., agricultural training is well developed, and the Ruakura farm school is virtually an agricultural high school.

(c) *University Education and Farm Schools.* — The University of New Zealand is an examining body, the actual teaching being done in four constituent colleges and in Lincoln and Massey Agricultural Colleges. The last named is a new institution in which teaching was commenced in 1928. The contact between the constituent colleges and the rural community is largely indirect through their students and by means of research. The vital questions become: To what extent does the University train leaders for the rural community? To what extent does it clarify rural problems and offer guidance in the formulation of rural policy?

Many University students will work as teachers, lawyers, or doctors in rural districts or the small urban centres. The agricultural colleges may be expected to turn out trained students who, as farmers, will set the standard of farming practice, or as instructors, will offer guidance to farmers in general. There is no doubt, too, that some research work may have a practical bearing on agricultural development; but it must be regretfully admitted that the sociological aspects of the rural problem have been too largely ignored. Provision is made for the teaching of agricultural economics in the two agricultural colleges, and the syllabus provides for some consideration of rural institutions and organisations. Courses in Education, Philosophy and Economics, especially the first, impinge on the problem at certain points, as also may research work by candidates for the Master's degrees in arts and agricultural sciences; but such provision is altogether inadequate. The time is overdue for careful social surveys of rural districts but so far there has not been a single survey of this kind yet published though studies of certain aspects of the rural problem have been made by candidates for Honours in Education.

In addition to the above, provision is made for the training of farmers on the State Farm at Ruakura which is doing excellent work and the establishment of

additional training farms was recommended in a recent report by the Board of Agriculture (1).

(d) *The Department of Agriculture.* — The functions of the Department of Agriculture were originally purely administrative, but it "has gradually evolved methods by which a considerable section of the officers engaged in the duties imposed by the various Acts which it has to administer have now become a medium for conveying to producers practical knowledge based upon scientific facts or conclusions for the purpose of enabling them to cope to the best advantage with the various animal and plant diseases or pests for the repression of which legislation entrusted to the Department's administration is designed.... it is satisfactory to note that as instruction has increased the necessity for inspection has diminished (1)". There are now a large number of special instructors in various aspects of agricultural science and practice. The Department also conducts research work both in the laboratory and the field and controls experimental and demonstration farms which in some instances are used as training centres. The mere improvement of farming practice and the encouragement of a scientific attitude of mind is likely, in the long run, to improve the whole mental outlook of the farmer, and thereby react on the non-technical aspects of the rural problem. The recently constituted division of farm economics, which has made an excellent beginning in farm survey work, should some day be in a position to throw more light on the problems touched on in this paper by means of "social" surveys.

(e) *Adult Extension.* — The most important organisation conducting extension lectures in "non-vocational" subjects in New Zealand is the Worker's Educational Association (W. E. A.) over which the University Colleges have a share in control. Classes are conducted in such subjects as English Literature, History, Psychology, Economics, Musical Appreciation and the like. Two summer Schools are held annually (in Canterbury and Auckland Provinces respectively) and in some centres week-end schools are conducted. Many of the classes are held in the smaller towns and in some cases are well attended by farmers. In Canterbury, an attempt has been made to reach smaller outlying groups by means of "box-schemes". Courses of lectures are prepared on various topics by tutors and are sent, together with appropriate literature, to provide the basis of work by study circles. Winter schools to farmers, combining lectures on "practical" and "cultural" subjects, were also instituted in Canterbury some years ago but have since lapsed. The idea has now been developed by the Department of Agriculture though such schools are confined to "practical" subjects.

It has endeavoured, very successfully in many cases, to develop an interest in non-vocational education among residents in rural districts and has indicated what might be done by carefully organised and persistent efforts. So far, however, only the fringe of the rural community has been touched, and a tremendously important field is awaiting development. For this work the W. E. A., though at present the only competent body, is not well suited. In origin, outlook and administration is essentially an urban movement, with only a very partial realisation of the nature of the problem of adult education in country districts. Further, it is regarded with some suspicion (largely unwarranted) by many farmers, who believe it to be a "labour" organisation, and for this reason imagine it to be inimical to farming interests. Hence it is necessary to aim towards the creation of a new movement

(1) *Agricultural Education in New Zealand 1925.*

based on co-operation between the University and farmers' organisations, working parallel with, but distinct from, the W. E. A.

A scheme for the development of extension work in country districts is at present under consideration, and provided sufficient funds can be raised, is likely to be launched in the near future. The other great educative agency is the church.

The rural church problem in New Zealand is acute. Speaking generally, the country church, whether it be in the open country or the small township, is poorly attended and weak in spiritual force. Different denominations representing only superficial differences in creed and outlook, if any, compete for congregations; and clergymen travel long distances to minister to pitifully small congregations. Potentially, the church is a social force of tremendous importance in the rural community; but organised activities other than the purely religious are microscopic in importance.

6. — *Farmers' Organisations.*

The chief farmers' organisations are the Farmers' Unions and Co-operative Societies, though in addition are a number of bodies such as agricultural and pastoral associations, pedigree stock societies, herd testing groups and the like.

The most marked development in co-operation is in the dairying industry. Elsewhere co-operation is weak.

The New Zealand Farmers' Union was founded in 1900 and consists of district groups federated into Provincial Unions, which are in turn federated into the New Zealand Farmers' Union. Included among its objects are the following:

"To encourage the establishment of seed-growing associations, Boys' and Girls' Farm Clubs, experimental and research establishments or other similar organisations calculated to benefit the members of the Union and the farmers generally".

"To collect and to publish statistics or other economic information likely to be of interest to the farming community".

"To promote social intercourse and the study of economic and social questions bearing on the interests of the farming community".

"To promote harmony between farmers and their employees".

"To improve the conditions of rural life generally".

To the present the activities and achievements of the Union have been economic and political. The Union eschews party politics officially, but renders vocal the political opinions of farmers, and watches legislative measures brought before Parliament.

Neither the Co-operative Societies nor the Farmers' Unions have done much to further a "country-life movement" directly, though they achieve something by the mere bringing together of farmers to discuss common problems. Their chief significance rests in the possibility that they may be utilized for the furtherance of the general social welfare of the countryside. The avowed aims of both the Farmers' Unions and Co-operation are such that they should reasonably be expected to take a lead in such work.

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Such in brief are the principal features of New Zealand country-life. The organised attempts at amelioration of rural conditions are just beginning to bear fruit, and although undoubtedly mistakes have been made in the past, the record of both official and private organisations in this respect has on the whole been remarkable.

Though much remains to be done in the material sense in the development of transport and of intellectual life especially education, it seems inevitable that with the emergence of world agriculture from the economic morass of the post-war years, New Zealand will participate in the revival of prosperity among the agricultural countries, and will experience an immense material and intellectual impetus in the not very remote future.

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LAND SYSTEMS

The General Scheme of Land Improvement in Italy.

The necessity, in view of the increase in population, of intensifying agricultural production (1) to the utmost possible extent, together with the desire to check urbanisation by improvement of rural conditions, fully explain the lines which are being followed by the Italian Government in securing ways and means for the so-called "*bonifica integrale*" by which is to be understood the execution, in all parts of the Kingdom of Italy, of systematic schemes of land drainage and irrigation operations conjoined with the construction of roads, aqueducts, rural buildings, farm workers' dwellings, etc. The general underlying principle is that of regarding as inseparable from land drainage and sanitation measures the question of agricultural improvement and land settlement. In this last there is of course involved development in regard to building, communications, means of transport, and possibly, also inland navigation and industry at least in so far as necessary to ensure not only intensive cultivation but in addition the possibility of settlement in the areas to be improved. The measure introduced is hence comprehensive and far-reaching, of the first importance from the economic and social standpoint. Its object is to improve the agricultural and the food situation of the country, and to settle permanently on the land a larger number of workers and families.

The significance and value of this great reform cannot be adequately grasped nor can an idea be formed of its probable effects without first recalling the essential points of the previous legislation on which it is based and which constitute its preliminary phases. It may however be stated that it sums up a tendency in legislation which has been developing over a long series of years and that it is the final embodiment of the traditional conception of *bonifica* while extending it in accordance with the new requirements.

The first general regulations issued on the subject in 1882 regarded the problem as a simple question of drainage and embankment of marshy areas (2). Experience however clearly shows that such a limitation of the question could not lead to effective results especially in the regions in which malaria was not got rid of by the simple drainage of the marshes and where even an adequate drainage system was not enough to bring about the desired intensification of cultivation. There

(1) From 1922 to 1927 the Italian population increased by more than 2,000,000. This fact and its implications explain the anxiety of the Italian authorities to increase the productive area in proportion to the increased consumption. It is only necessary to reflect that in spite of the results already obtained from the "Wheat Campaign" thanks to which the production has risen from an annual average production prior to 1922 of about 45,000,000 quintals to 62,000,000 quintals in 1928, Italy is still obliged to import annually about 25,000,000 quintals of wheat.

(2) Reclamation by drainage was undertaken by the State from the union of Italy to March 1928 at a total expenditure of 2,720,648,057 liras.

was an increasing recognition of the necessity of bringing the progress of the drainage operations into relation with the position of the general land improvement measures and this principle was fully adopted by the new consolidating law on land improvements of 30 December 1923, No. 3256 in accordance with which (a) the notion of " *bonifica di prima categoria* " was more clearly defined, being recognised as that type of betterment in which the combined hygienic and economic advantages are in the social interest mainly (1); (b) it was provided also that among the works in question there should be included all those required to ensure the degree of humidity necessary for the crops and for the circulation of water in the canals; (c) special provisions were included likely to ensure the completion of the agricultural improvements. Powers were conferred on the authorities to compel concessionaries to submit together with the technical and financial details of the scheme for reclamation by drainage also details relating to agricultural improvement, in this way combining the two aspects of the land development, instead of subordinating the one to the other; (d) provision was also made for recognising minor improvement works, more particularly in the neighbourhood of centres of population.

These measures however always presupposed the existence of marshy lands, as it was in these cases only that the work of betterment assumed the character of a work of public utility and for that reason was entrusted to State organisations. It was the law of Serpieri of 18 May 1924, No. 753, on " *land development schemes of public interest* " (*trasformazioni fondiari di pubblico interesse*) amended by the Decree-Law of 29 November 1925, No. 2464, which widened the field of State intervention. In addition to the redemption, from the economic and hygienic standpoint, of the marshy areas only, the object of this law is to secure the intensification of production in those regions where waste lands exist, whatever may be the cause, physical or economic, of such conditions. On this basis there should be classified as " *comprenditori di trasformazione fondaria* " (areas to be subjected to land development operations) all areas in which for geological or hydraulic reasons, absence or deficiency of communications, failure of irrigation water, and generally speaking for serious reasons of a physical or social nature, agriculture is a backward condition, but which at the same time appear capable of improvement with beneficial result in general. In areas in which such land improvement appears in view of the anticipated increase in production to be of public interest and is to be executed in accordance with a single scheme of operations, the Government is empowered to proceed with any public works which must be carried out concurrently with the land improvement, and further to carry out such agricultural improvements and such land settlement as concern most of the farms in the area. In this way land improvements covering a number of properties acquire the character of public works, while on the other hand the law makes the land improvements which are of special interest for particular properties obligatory on the respective landowners. All work essential to the completion in each *comprenditorio* of the general scheme of land improvement or development — apart from the improvements of special interest to the separate properties — must as a rule be effected by a concession to the consortium of the landowners

(1) All other betterment schemes are classed as of " *seconda categoria* ". Improvements of the first category are carried out by the State, which executes them directly or entrusts them to consortia of owners, or to provinces, to communes or to individuals; those of the second category are carried out by individuals, although the State assists in the execution either declaring them to be of public utility, or by making certain contributions when public health is concerned or when the schemes provide for considerable agricultural improvements.

concerned. These consortia may be formed voluntarily or under compulsion, the regulations being the same as those in force for the consortia established for land reclamation work. On one and the same *comprendorio* there may exist several such bodies, while in addition facilities are given for forming a consortium of the second (higher) grade to supervise the work of the others.

In default of consortia, the concession may be made to any other corporate body or to an individual, possessing or undertaking to acquire possession of some considerable part of the area to be developed. The concessions may also be made to tenants of a considerable part of the lands included in the *comprendorio* provided that they undertake to carry out the land improvements that are of special interest to the farms rented. The concessionary may be authorised to expropriate such part of the *comprendorio* (land or buildings) as may be susceptible of important changes in cultivation or of industrial utilisation. As regards improvements to be made on separate properties, any person who as the owner of properties in the *comprendorio* has a definite interest in it and proposes to execute land improvements in accordance with the general scheme of development, may apply for power to expropriate land or buildings which it is proposed to improve, always provided that they are susceptible of really considerable transformation. The expropriation cannot however be allowed if the owner makes a declaration that he is himself ready to carry out the improvements proposed and gives adequate security that he will do so. Within the last few years 23 such areas (*comprendorii*) have been defined, including in all about 1,200,000 hectares, distributed in nearly all parts of Italy and especially in the South and in the Islands of Sicily and Sardinia. Undoubtedly land improvement work has been systematised and its scope much enlarged by the Serpieri law which contemplates the co-ordinated treatment of mountain and lowland, the redemption of the lands unproductive from want of water and the systematic subdivision of the large estates.

There are in addition the special measures relating to irrigation which are combined in the consolidated text approved by Royal Decree 2 October 1922, No. 1747, amended and completed by the Royal Decrees of 20 May 1926, No. 1154; and 13 August 1926, No. 1907 (1). According to the principal provisions in force, "with the object of promoting the increase of agricultural production by means of irrigation works", subsidies may be granted: (a) for enquiries and draft schemes relating to these works and to the improved utilisation of the surface and subterranean waters; (b) for the establishment of experimental irrigation farms; (c) for the encouragement of and award of premiums to private enterprise in extending any such works; (d) for investigation of subterranean waters, borings, construction of wells, installations of wind pumps and electric plants connected with water distribution schemes.

For any quantity of water utilised, the State may assign to the person or persons carrying out the works required a contribution which may vary from 35 to 45 per cent. of the amount expended in Northern and Central Italy and from 35 to 50 per cent. in Southern Italy and in the Islands (Sicily and Sardinia) according to the importance of the undertaking from the point of view of public interest and of the changes with which it is encumbered. In calculating this contribution, account is taken not merely of the expenses of installation, but also of the working

(1) See the note on "Irrigation in Italy" in the *International Review of Agriculture* of January 1928, p. 16. It may be stated that at the present time 1,600,000 hectares are under irrigation 75 per cent. of which lie in Northern Italy and 25 per cent. in the other regions of the mainland and in the Islands.

costs and of the necessity for additional improvements of the lands to be irrigated. Special attention should be called to the provisions regulating the irrigation consortia of land owners, which may be formed if the proposal receives the favourable vote of the majority of the owners concerned, even though such majority represents only one-fourth of the area to be irrigated. Provision is also made for the compulsory establishment of consortia when shown to be required for the furtherance of agriculture. Provision may also be made by bodies of this type for agricultural improvements in their *comprendorio*, such as construction of farm roads, rural buildings, supply of drinking water, etc. In the absence of any initiative on the part of the owners or their consortia, the works may be carried out by ordinary firms. Provisions for encouragement of irrigation works are also contained in the Decree-Law of 9 October 1919, No. 2161, relating to the sources from which public waters may be obtained and their utilisation, and empowering the Government to make special grants for the construction of reservoirs and artificial lakes. These grants which may be made over a period of at most 50 years may be as high as 8,000 liras per annum for every million cubic metres of water collected.

The legislation on land improvement and land development and on irrigation works having been perfected, it was recognised to be essential for the regions where the rural population is crowded into urban centres, to encourage the removal of the peasants to points nearer the actual place of work and provision for the formation of rural centres was made by the Law of 7 February 1926, No. 193, while by the Law of 16 June 1927, No. 1,042, provision was made for the minor agricultural improvements, e. g., farm roads, breaking up and clearing of land, watering troughs for stock, etc., in cases where it would be difficult to expect the landowners to take any initiative apart from State aid.

Subsequently steps were taken as described in earlier numbers of this Review (1) to consolidate all the legislation on agricultural credit (Decree-Law of 29 July 1927, No. 1509, converted with amendments into the Law of 5 July 1928, No. 1760), and to establish a National Consortium for Agricultural Improvement Credit (*Consorzio nazionale per il credito agrario di miglioramento*), the purpose of which is to supply funds for land improvements on a large scale and for the more important reclamation and irrigation operations.

The considerable development of land reclamation and irrigation schemes for the most part worked under consortia of persons concerned, has brought into relief the need for a central organisation giving direction and especially financial assistance while effecting a closer collaboration with the State. It was with this object that the Association of the Land Improvement and Irrigation Consortia (*Associazione Nazionale fra i Consorzi di Bonifica e di Irrigazione*) was formed by the Decree-Law of 26 April 1928, No. 1017, converted into the law of 20 December 1928, No. 3226. This institution although so recently formed has already had a far reaching and beneficial effect.

The Law for the comprehensive betterment schemes (*bonifica integrale*) dated 24 December 1928, No. 3134, summarises and consolidates in a sense all the provisions already mentioned, which enter into it as factors and presuppositions, and accordingly does not merely deal with marshy lands and lands under extensive cultivation or lying waste, but provides adequate means for proceeding everywhere on national territory to the intensification of cultivation and production. It is thus the law for the general heightening of the efficiency of Italian agriculture equally

(1) See *International Review of Agriculture*, September 1927 and March 1928.

in respect of land drainage, sanitation, agriculture proper, irrigation, forestry and population.

On the basis of careful investigation into the operations of reclamation, irrigation, etc., as undertaken by concessionary bodies or companies, it has been possible to formulate the programme of the work to be executed and the amount of the funds required is fixed in accordance with the estimate requirements. The essential object of the present measure is to determine, in accordance with the ratios to be here indicated, the contribution to be made by the State towards the expenditure involved in carrying out works falling under the following categories.

(a) *Land Reclamation and Irrigation Works.* — State assistance in this case is administered by two Ministries : the Ministry of Public Works in respect of the land reclamation works throughout the Kingdom and the irrigation works in Southern Italy and in the Islands ; the Ministry of National Economy in respect of the irrigation works in Northern and Central Italy. The former is authorized to contract engagements for 250,000,000 liras annually for 30 years. To meet the payments corresponding to these engagements 7,710 million liras have been set aside, payable in instalments over 30 years. The average percentage contribution of the State to the expenditure for land drainage works and for irrigation works within the competence of the Ministry of Public Works is 68 per cent. for land drainage and 42.5 per cent. for irrigation in Southern Italy and the Islands. The Ministry for National Economy is further authorised to set aside further sums for irrigation works in Northern and Central Italy to an amount of 660 million liras payable in 30 annual instalments. The percentage contribution of the State towards the costs of carrying out these operations is on the average 40 per cent.

(b) *Construction of Rural Aqueducts and Supply of Drinking Water.* — The State contribution to the costs in this case is fixed at the rate of 75 per cent. To meet this payment sums of 390 and 600 million liras respectively are set aside, divided into 30 annual instalments ; these have also to be used to provide the contributions towards cost of construction and adaptation of farm roads, as below.

(c) *Construction of Villages and of Isolated Rural Buildings.* — State aid for the expenditure involved is fixed at the maximum limit of 30 per cent. A sum of 300 million liras is set aside, payable in 30 annual instalments.

(d) *Construction and Adaptation of Farm Roads.* — State aid towards cost of construction and adaptation of farm roads for the use of several farms is fixed at the maximum rate of 40 per cent. Provision is made for this expenditure, together with the contributions to be made for the provision of drinking water, by the setting aside of 600 millions payable in 30 annual instalments. In Southern Italy and in the Islands the contribution may amount to 87.5 per cent. and provision is made for this from the funds set aside as above stated on the budget of the Ministry of Public Works for land drainage and for irrigation.

(e) *Generating of Electric Power for Agricultural and for Land Improvement Purposes and Schemes for Utilisation.* — State aid for this purpose amounts approximately to 40 per cent. of the cost. Payment of this contribution is met by allocations of 45 million liras, divided into 30 annual instalments.

Seeing that the execution of important operations of land development will oblige the concessionaries to invest large capital sums, and with a view to stimulating such investment, the Government is empowered in exceptional cases to guarantee the capital and the interest of the bonds which have been issued for the carrying out of the required works by consortia of landowners and by organisations formed for the purpose of land reclamation or land development ; moreover, the Ministry of Public Works or of National Economy according to the case may guarantee up to a

sum not exceeding 10 million liras, the loans made, through the medium of the National Association of the Land Improvement and Irrigation Consortia already mentioned, to newly established consortia for initial working expenses.

In all the amount representing the annual instalments to be shown on the State budget for purposes of *bonifica integrale* is 9,705 million liras. The present value of this amount, which is to be paid over a period of 30 years, calculated at the rate of discount in force for the deferred payments (7.50 per cent.) is 4,043 million liras.

Finally the Government is instructed by the same measure to regulate the relations between land owners and tenants of farms to be improved and to encourage the reparaelling of small holdings which fall under land development schemes. Other questions are dealt with, such as that of compensation for improvements carried out by tenants on rented farms (1), which have been the subject of discussion for some time in Italy. The settlement of these questions would ensure that not only land owners but also tenant farmers would take an active part in this new policy of land improvement. In particular it is in the excessive fragmentation of rural properties, in other words in the very small size of the holdings, that the main obstacle, often insuperable, is found to the intensification of production.

As the contributions to the land improvement expenses for which the State is responsible are distributed over thirty financial years, and it will be necessary for those undertaking the work to have recourse to credit, the *Associazione Nazionale fra i Consorzi di Bonifica e di Irrigazione* has made arrangements with the larger credit and thrift institutions for obtaining funds on favourable terms, the precise amount being 500 million liras per annum for 10 years.. This sum of five milliards of liras is considered sufficient to meet the immediate financial needs of this huge undertaking. On the whole the operations of various kinds which it is estimated should be carried out relate to an area of 3,658,000 hectares, i. e., about 12.8 per cent. of the area under cultivation or forests in the Kingdom, which is in all 28,446,670 hectares; these operations may be thus distinguished: general land development, 1,400,000 hectares; irrigation works, 1,100,000 hectares; improvement works in course of operation, 568,000 hectares; land drainage works still to be initiated, 590,000 hectares. In the first year (1 July 1929-30 June 1930) the cost of the operations is estimated at more than 600 million liras.

The National Fascist Confederation of Farmers (*Confederazione Nazionale Fascista degli Agricoltori*) is actively engaged in making the scheme well understood in farming circles, and with this object have invited the provincial federations which are linked with it to collaborate, by means of the respective "Commissions of Enquiry for Land Development" (*Commissioni di studio per la trasformazione fondiaria*), with the State organisations and with individuals for the most effective and prompt achievement of the objects of the law.

G. C.

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Provvedimenti per la bonifica integrale. Disegno di legge presentato dal Ministro dei lavori pubblici (Giuriati) alla Presidenza della Camera dei Deputati il 15 settembre 1928-anno VI. Camera dei Deputati: Legislatura XXVII. Atti parlamentari n. 2110.

(1) The *Confederazione Nazionale Fascista degli Agricoltori* has already carefully studied the question and has drawn up a "Schema di norme su le migliorie nelle locazioni di fondi rustici" which will do much to lighten the task of the Government.

Provvedimenti per la bonifica integrale. Relazione della Commissione speciale nominata dal Presidente della Camera dei Deputati sul disegno di legge presentato nella seduta del 24 novembre 1928-anno VII. Camera dei Deputati. Legislatura XXVII. Atti parlamentari n. 2110-A.

Provvedimenti per la bonifica integrale. Disegno di legge presentato dal Ministro dei lavori pubblici (Giurati) al Senato del Regno nella tornata del 14 dicembre 1928-anno VII, approvato dalla Camera dei Deputati l'8 dicembre 1928-anno VII. Senato del Regno. Legislatura XXVII. Atti parlamentari n. 1850.

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[The author gives a brief but comprehensive survey of the trade in cereals and more particularly in wheat from the point of view of the progress in the technique of this trade and of the legal aspect of the contracts involved. He is mainly interested in the agricultural co-operative societies, in the arbitration courts, and in the up-country markets of the principal exporting countries. For each of these countries (Canada, United States, Argentina, Australia, India, Russia, Bulgaria, Rumania and Hungary) he sketches the market organisation and marketing conditions.

M. Brebbia then passes on to examine the corresponding commercial situation of the principal importing countries (Great Britain, Italy, Germany, France, Belgium, Holland, Switzerland) and concludes by making a comparative analysis of the different forms of model contracts, and of the principal clauses in use on the more important markets, relating to quality, quantity, price, shipment, cases of force majeure, insurance, payment, discharge, damage, arbitration. The article is completed by an analytical table of the contracts in use].

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[In a note on the consolidating law of agricultural credit in Mexico, passed 10 February 1926, the author draws attention to the leading features of this important reform, to the auxiliary institutions, *viz.*, the National Bank of Agricultural Credit and the local Credit Societies, and to the guarantees and forms of the various kinds of operations].

KLINGE Gerardo. La Industria azucarera del Hawai. Lima (Perú), 1928, 210 p. [The author who was commissioned to make a study of sugar production in Hawaii attributes the success of the industry in this country to the satisfactory organisation of co-operation and to the prevalence of scientific methods].

LANGE, Jakob E. A Danish view of British farming. London, John Lane, 1928. 49 p. 18.2 cm.

[The author, who is Warden of the Odense Smallholders' School, has been a student of the social and economic life of England for the last forty years and has lately made a tour through the rural areas of most of the English counties. The signs of inactivity and partial stagnation in British farming he attributes to the predominance of the landlord system and advocates further establishment of small holdings, grouped in colonies with co-operative institutions, and devoting attention to intensive cultivation].

La Industria Azucarera Argentina. Opúsculo publicado por el Centro Azucarero Nacional. Buenos Aires, 1928. 3ª edición, 82 p.

[Within the limited space of this pamphlet, the writer makes quite clear the present position of the sugar industry in the Argentine Republic.

Some tables are added on the customs duties and charges on sugar in all countries and a statistical statement of the world production of sugar in the last 15 years].

MAGUREGUI M. de: La teoria de la paridad del poder de compra. *Razón y Fe*. — Madrid, A. 29, pág. 103-123. Vol. 86. Fasc. 2.
[Readers interested in monetary questions who desire to follow the course of proceedings in Spain in view of the probable establishment of the gold standard will obtain full information on the subject from the articles of Prof. Maguregui of the Commercial University of Deusto].

Tricet let české zemědělské družstevní práce. Prague, Ústřední jednotá, hospodářskýck družstev, 1928, 668 pages, 34 × 25, 1100 illustrations, graphs, statistics, 7 maps.

[This publication is intended to commemorate the thirtieth anniversary of the foundation of the Central Union of Agricultural Co-operative Societies, the headquarters of which are in Prague. Its main object is to indicate, on the occasion of the tenth year of the Republic, the present position of agricultural co-operation in Czecho-slovakia and it contains an admirable collection of general statements and characteristic descriptions of the agricultural conditions in Czechoslovakia and in particular of the rural population. The statistics as well as the general information and the titles of the illustrations are given in Czech and in French, and summaries in French, English and German are added].

SEAGNE P.: La industria de las carnes en el Uruguay. — Montevideo, 1928, Vol. I, 536 p.

[Dr. Seagone's work will be primarily of interest to those who desire to study the characteristic phases and progress of the stock breeding industry of Uruguay. It covers the entire cycle: the early days when all that was done was the curing of the hides, the rise of the salting establishments, the practical application of cold which formed the basis of the installation of the large freezing works now in existence.

Full and detailed attention is given to all the aspects of the subject, so that the result is one of great interest and undoubted value].

AGRICULTURAL LEGISLATION

Recent Developments in Legislation on the subject of the Small Family Property.

One of the problems most engaging the attention of the Governments in the different countries at the present moment is that of the rural small property and the measures best calculated to promote and protect it. It is a problem of vast range and hence no attempt can be made here even to enumerate its various aspects in the sphere of social policy and of agricultural economics and science. The present study will be confined to an examination of a very special aspect of the question, involving for the most part considerations of a social rather than of an agricultural economic character, and consisting in measures intended to ensure the land worker a house and a plot of land sufficient in size to support him and his family. This is the object of the provision made in various countries under different names ("casal", "hogar", "patrimonio de la familia") with individual characteristics, often with different range of application, for the constitution of a small family property sufficient to guarantee the minimum necessary for existence, and prevent rural families from leaving the country and settling in the towns.

The principle of the freedom from execution and the inalienability of the homesteads, affirmed in 1862 in America as a "salutary" measure for protecting the livelihood of settlers and their families by guaranteeing them adequate means of sustenance in every situation however adverse, has been variously incorporated in the legislative systems of other countries as an exceptional but still necessary legal privilege for safeguarding the family against risks of improvidence on the part of its head and against the vicissitudes of the economic situation of the family itself, which in country districts is especially difficult on account of its liability to unexpected losses.

These principles of the inalienability of homestead lands and their freedom from execution were criticized by a large number of legal authorities for reasons of a strictly juridical character, based on the current conceptions of the principle of ownership and of the liability of the debtor towards his creditor. But apart from the fact that in other sections of private law these criteria have been overridden on grounds of social policy and that many derogations from the principle that "he who binds himself binds his property" could be enumerated, there is another reason which is in our opinion fundamental. This is to be found in the fact that the institution of the homestead owing to its form and to its character of an institution — at least as regards the lines along which it has developed up to the present day — completely novel and original in its construction and hence not perfectly definable nor completely developed, ought, as a legal conception, to be considered as belonging to the law of the Family rather than to the law of Real Rights or of Obligations. Thus logically detached in view of its peculiar nature from the remaining body of private Law, it would rank as a particular section of Family Law — that is, of a branch of law which, as the result of the fact that the family constitutes one of the social bases on which the State reposes and develops, tends by its very nature to approximate to Public Law. A remarkable effort towards thus incorporating the institution of the rural family property in the corpus of Family Law is to be seen in the recent legislative developments in Mexico considered below. Before dealing with these particular innovations it is proposed to cast a rapid glance over the corresponding legislation in other countries.

The earliest and most enthusiastic supporters of the rural family property or "bien de famille" are to be found in France. This is easily explained when one considers the great importance ascribed in France to the protection of the small holding as a means of counteracting rural exodus and the depopulation of the country side. The French legislature after long years of study and discussion, of uncertainty and hesitation, consecrated in the famous law of 12 July 1909 the creation of the "bien de famille".

In Switzerland, another country of peasant proprietors, the new Civil Code deals with this institution in articles 335-359, thus bringing into being the so-called "asile de famille" ("family home"). In Egypt a law has been passed (Law No. 4 of 1913) which although not exactly providing for the establishment of the rural family property has, for considerations of the same order, exempted small agricultural properties from distraint. The Brazilian Civil Code of 1916 dedicates a whole chapter to the rural family property (General Section, Book II, Concerning Property, Title One (and only), on the Various Kinds of Property, Chapt. V), as also does Venezuela in its new Civil Code promulgated in 1916.

Germany, by a law of 10 May 1920, has also created a similar institution under the name "Heimstatt" which, in spite of some features peculiar to itself, bears analogies to the principles contained in the legislation quoted above. Portugal, again, in 1920, has instituted a "*casal de família*" almost completely modelled on the French "bien de famille".

In other countries many bills having the same object await the sanction of the legislator whilst in others again the question is the subject of interested and animated debate.

* * *

The French Parliament has finally approved the bill proposed as far back as 1923 by l'Abbé Lemire, one of the oldest and most strenuous supporters of the rural

family property. The object of the Bill is to increase the maximum value of such property, which has been fixed by the Law of 12 July 1909 at 8,000 francs. This figure had, in view of the fall in the value of the currency and the change in the economic situation, obviously become insufficient to cover the present value of the house and plot of adjacent land necessary to constitute a rural family property. In fact the constitution of a "bien de famille" had, in spite of the benefits and privileges granted in 1909, become impossible. The recent law of 14 March 1928 brings this maximum value up to 40,000 francs, a sum considered adequate to the changed economic position.

The new Civil Code of Mexico, published on 30 August 1928, has regulated the rural family property as a organic whole. This remarkable piece of legal construction deserves a detailed and profound analysis.

The rural family property had already formed the subject of a provision of the Political Constitution of the United States of Mexico since 1917. Art. 27 of the Constitution had in fact, in tracing the broad lines of the legislation to be passed in the subject of agriculture, in particular for the objects of the sub-division of great landed estates, laid down that "the local legislations shall make provision for the family patrimony, determining the property of which it is to consist, while adopting as basic principles that such property shall be inalienable and not subject to any distraint or charge whatsoever".

In the new Civil Code of Mexico the institution of the rural family property is rightly placed in Book I, On Persons, constituting the Twelfth Title : Of the Family Patrimony. This patrimony may consist of a dwelling house and in some cases of land suitable for cultivation. In the majority of the other countries which have introduced legal rules on the constitution of rural family property, it is laid down that the land must adjoin the dwelling house. This provision renders the constitution of the rural family property in many cases difficult. The Mexican Code makes no mention of such a condition — a fact which in itself marks a notable advance.

It is expressly declared that the property forming the family patrimony does not pass from the person constituting the patrimony to the members of the family benefiting thereby. The latter have only the right to use and enjoy the property, in other words to live in the house and enjoy the fruits of the ground assigned to the family patrimony. This right is granted to the husband or wife of the person constituting it and to the persons whom he or she is obliged, under the provisions of Chapt. II, Title VI (On Legal Support) to support.

Those benefiting from the property assigned to the family patrimony are represented in all their relations with third parties, in matters connected with the patrimony, by the person constituting it. In default of the latter, the beneficiaries by a majority vote, appoint a representative who will be responsible for the administration of the property. The property assigned to the patrimony is inalienable and is not subject to distraint or to any charge whatsoever. It must be situated within the municipal area where the person constituting it resides. Only one family patrimony may be constituted for each family, and the constitution of a second patrimony, while the first patrimony is still in existence is void of any legal effect.

The Mexican law, differing in this from the provisions of the French legislation, lays down that the property assigned to the family patrimony may not exceed in value a certain sum varying according to the particular area. For the municipality of Mexico this sum is fixed at 6,000 pesos, for the rest of the Federal District and for the District north of the Bay of California at 3,000 pesos

and lastly at 1,000 pesos for the District south of the Bay of California and for the territory of Quintana Roo.

Any person wishing to constitute a family patrimony must make written declaration to the local judge, indicating with the utmost precision what part of his property he intends to assign to the constitution of the patrimony so that the proper entry may be made in the Public Register. He must at the same time prove : 1. that he has attained his majority or is emancipated ; 2. that he resides in the place where he intends to constitute the patrimony ; 3. that the family for whose benefit he intends to constitute a patrimony does in fact exist. (This proof is furnished by extracts from the returns of the Registrar General) ; 4. that the property with which it is proposed to constitute the patrimony belongs to the person constituting it and is not subject to any charges other than servitudes ; 5. that its value does not exceed the maximum allowed by the law. The Judge shall, after satisfying himself of the accuracy of the documents furnished, confirm the constitution of the family patrimony and order its proper registration in the Land Register. The same procedure is followed when it is desired to increase up to the maximum allowed by the law the value of a patrimony created for a lesser amount.

An important provision is contained in art. 734 which contemplates the compulsory constitution of a family patrimony in favour of dependents. The article in question lays down that whenever there is a danger of the person responsible for the maintenance of certain dependents losing his property either as a result of bad administration or extravagance, the dependents, or where these are under disability, their guardian or else the Law Officer of the Republic (*Ministero Público*) may make application for the constitution of a family patrimony within the maximum limits of value laid down by the law.

With the object of encouraging the formation of family patrimonies Art. 735 introduces special provisions for the transfer of certain lands belonging to the Federal domain or to individual States of the Union to persons wishing to constitute such patrimonies. But whereas persons constituting such patrimony out of their own property need not be Mexican subjects, it is expressly laid down that persons wishing to obtain the transfer of State lands, must be Mexican subjects. In addition to this last requirement, and to the usual requirements of majority, residence and existence of the family relationship the person constituting the patrimony in the case when he does so out of State property, must prove that he and the other members of the family are in a position to hold an office or engage in a particular profession, industry or commerce and that they possess the necessary material equipment for the trade or profession followed by them. He must in addition declare the amount of his income in order that it may be ascertained whether he is in a position to pay the purchase price of the land ceded to him on the specially favourable terms offered by the State. Lastly he is required to prove that he possesses no property of his own. The law allows anyone who has a lawful interest in the matter the right to prove that a person who constituted a family patrimony out of lands furnished by the State had property of his own and to obtain from the judge a declaration that the constitution of the patrimony is in consequence fraudulent and void.

A special administrative procedure is prescribed for the constitution of this second form of patrimony which like the constitution by persons of a patrimony out of their own property is subject to the confirmation of the Judge and requires to be registered in the Public Register.

Once the patrimony has been constituted according either to the one method or the other, the family is obliged to live in the house and cultivate the ground.

Bills.

BELGIUM. — Projet de loi relatif à la protection des animaux. *Annales Parlementaires*, Séances du 12 et du 19 juin 1928, pp. 944, 967.

[The Chamber of Deputies in the course of its sessions of 12 and 19 June last discussed a new bill on the subject of the protection of animals. This bill contains measures for preventing overcrowding of animals exposed for sale and contemplates also a scientific modification of the rules on slaughtering in order to diminish the suffering to which animals intended for slaughter are subjected. It also contains measures on the shooting of pigeons. The creation of a special Bureau for supervising the application of this law, is also proposed].

*** Projet de loi accordant la personnalité civile à certains établissements d'intérêt agricole. *Annales Parlementaires*, Séance du 29 juin 1927, p. 1871.

[The Chamber of Deputies has discussed a bill proposing to grant civil personality to higher education schools and research stations connected with agriculture and belonging to the State. These institutions include the State Agronomic Institutes at Ghent and Gembloux, the State Higher Normal Institute of Agricultural Domestic Science at Laeken, and the State Plant Improvement Station at Gembloux. The State Veterinary Medicine School at Cureghem as well as the schools of agriculture and horticulture and the institutes for research in agriculture may, within the conditions determined by Royal Order, be granted civil personality.

The powers, organisation and mode of working of these establishments are determined by Royal Order].

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[In "The Journal of Comparative Legislation and International Law" vol. X, part I, and part. IV of 1928, Mr. R. R. A. Walker B. A., Ll. B. deals with "The English Property Legislation of 1922-26". The writer traces the origins of this radical reform of English land law to various statutes passed in the course of the last century with the object of simplifying legal conveyancing of land. The Conveyancing Bill presented in 1897 to Parliament was not included in the Government's programme, and was presented once more in 1914, this time consolidated with a Real Property Bill. A Committee was appointed in 1919 to resume the work interrupted by the War. The resulting *Law of Property Act* of 1922, modified by an Act of 1924, became the basis of six consolidating Statutes — namely *The Law of Property Act*, 1925, *The Administration of Estates Act*, 1925, *The Settled Land Act*, 1925, *The Trustee Act*, 1925, *The Land Charges Act*, 1925 and *The Land Registration Act*, 1925 — which have been further amended by two more statutes — the Supreme Court of Judicature (Consolidation) Act, 1925 and the Law of Property (Amendment) Act, 1926].

Dr. HILL. — Generationspacht und Emphyteuse. — *Zeitschrift für Agrar- und Wasserrecht*. Berlin, Band II. Heft I. (1928).

[In this study Dr. Hill considers the question of hereditary leases (Generationspacht) which are especially found in Western Germany, and states that although the matter has formed the subject of legislative provisions, a definitive solution of the question has never been reached. Nevertheless it is a question of great importance for a large number of agriculturists who, having cultivated and improved their farms for a number of generations, find themselves one day obliged to surrender them to the landowners. The author concludes that a legal regulation of this matter should include not only hereditary tenancies in the strict sense of the term but also other contracts of a similar character, in particular emphyteusis, which are faced by the same problem].

Prof. G. ZANOBINI. — Il problema dell'autonomia del diritto rurale. — *Rivista di Diritto Agrario*, luglio-settembre, 1928, n. 7-9, p. 370. Firenze.

[According to Prof. Zanoboni, rural law ought to include not only the rules of private law in the matter of agriculture, but all the rules of public as well as private law on this subject. A *corpus* of the whole of the law dealing with agriculture would meet fully the needs of a general statement on the law and its teaching as well as of its scientific progress. When the various laws dealing with the same subject are studied as different branches of jurisprudence, for different objects and according to different methods, it is extremely difficult to arrive at a complete and comprehensive statement. This disadvantage can, as far as agriculture is concerned be remedied by a an organic and complete survey of the rules in force on this subject].

Prof. B. BRUGI. — Il Codice di diritto agrario e il progetto di codice delle obbligazioni e dei contratti. — *Rivista di Diritto Agrario*, luglio-settembre 1928, n. 7, 8, 9, p. 367. Firenze.

[Starting from an examination of a unified Franco-Italian Code of Obligations and Contracts, Prof. Brugi expresses the view that the preparation of a "rural code" should be undertaken also in Italy. This code would govern all the juridical relations connected with the land whether personal, real or arising out of "obligations". This new code should bear the same relation to the civil code as does the present commercial code].

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INTERNATIONAL REVIEW OF AGRICULTURE

PART II

MONTHLY BULLETIN

OF

AGRICULTURAL ECONOMICS AND SOCIOLOGY

ECONOMIC FLUCTUATIONS IN AGRICULTURE

The index-number method and the study of economic fluctuations in Soviet Russia.

PART I

§ I. INTRODUCTION.

The employment of the system of index numbers in Russian pre-war economy coincides almost exactly with the period during which the method became most widely diffused in Europe and America. It is well known that apart from the earlier price index, published in England about 70 years ago by the *Economist* and apart from the Sauerbeck index-numbers of the *Statist*, an index which goes back to 1886, all the other pre-war index-numbers refer to the period lying between 1893, the date of the index of the Finance Commission of the American Senate, and 1910, the date of the publication of the index of the Labour Department of Canada. In Russia, the publication of index-numbers began in the last years of last century on the initiative of the Department of Commerce and Industry. In its "Statement of Wholesale Prices of Commodities on the Principal Russian Markets from 1890 to 1896" this Department gave the movement of prices during that period in relation to those of the year 1890, these prices being taken as basis and considered as equal to 100. In this report the index-numbers were established for 60 products divided into 7 groups as follows:

1. Cereals.
2. Oils and Fats.
3. Animal products.
4. Textile products.
5. Mining products.
6. Chemical products.
7. Groceries.

The method used in the preparation of these index-numbers consisted in obtaining the arithmetic means of the seven price index-numbers of groups, numbers which already represented the arithmetic mean of the change in the prices of the particular products. As regards the weighting coefficient, nothing precise had been established and the weighting was done by an approximate method. There were also serious gaps in this system, the chief one being that a price index had not been calculated for the products of forestry, which has in Russia an importance of the first order; in this connection it is only necessary to mention that the turnover in regard to these products before the war amounted to a total of 600 to 700 million roubles per year.

The main purpose served by these index-numbers was to render it possible to present general conclusions on the tendencies of the commercial market and especially on those of the agricultural market. In consequence of the overseas competition during the last decades of last century, agricultural prices have undergone in Russia, as in all other parts of Europe, frequent and fairly well-marked fluctuations. But it was not by pure chance that the first establishment of price indices coincided in Russia with the monetary reform accomplished by the Minister Witte in 1897. The constant fluctuation in the value of Russian money made itself felt throughout the economic life of the country and brought about a rupture of equilibrium in the prices of products. The whole system of the regulation of the monetary circulation and of credit must necessarily be based on the thorough study of the changes in the general price level.

If, before the war, price index-numbers were merely a general means of orientation in the market situation and if they could be employed as an auxiliary means for correction of the defects of a monetary system which used however to function normally, on the contrary, after the Revolution, and after a depreciation of the currency on a scale such as had never before occurred in the history of economic life, the price index-numbers were the sole expedient making it possible to introduce some degree of order into the monetary and commercial economy which had been so completely upset. At the end of the Revolution of February 1917, the purchasing power of the rouble was still equal to one-third, or 32 kopecks, but soon afterwards it fell very sharply, and in the middle of 1922, when the Revolution was at its greatest height it fell to a five millionth of its value, that is to say, at that time the purchasing power of 50,000 roubles corresponded to that of one kopeck before the war. The issue of roubles which on 1 November 1917 was one of 22,446 millions roubles, had risen on 1 July 1921 to the truly fantastic astronomical figure of 2,346,139,000,000 roubles. This complete depreciation of the currency, as well as the general destruction of the bases of capitalist economy, was due mainly to a conscious tendency on the part of the State economic policy. Monetary circulation was contrary to the fundamental principles of an emergent Socialist economy and it moreover lost all significance, in view of the fact that this economy must orient itself towards a direct mutual exchange, and one in kind, of the surplus products of town and country. But at the moment when the liquidation of the money was in full swing the Russian Revolution, in consequence of an agrarian crisis of the most serious kind, abruptly underwent a radical transformation, by the introduction in the spring of 1921 of the "New Economic Policy", indicated in Russian by the abbreviation N. E. P. The Communist economy has been obliged to give way to State capitalism. Monetary problems and the question of price of commodities resumed their former importance. The depreciation of the rouble and the rise in price of commodities, which followed a parallel course, involved the Governmental enterprises in insurmountable difficulties in respect of the calculation of the price of products. The constant fall of the exchange made it impossible to determine these prices on a stable basis except after discounting the continual fall of the purchasing power of the Soviet rouble. It is obvious that even by this method it proved impossible to obtain a stable equivalent for price determination, since the monetary reform was only adopted in March 1924, but it did become possible to obtain a unit of a determined value, facilitating the measurement of the constant rise of prices, although in relative figures, in index-numbers of the prices. These index-numbers were to yield when taken together the prevailing tendency of the market in its development, a tendency which can be isolated from the chaotic price movements of the separate commodities.

We will endeavour to examine the main characteristics of these index-numbers of prices and in particular of the peasant index-numbers, and also to note the successive phases of the transformation. The study of these is of interest in itself and may contribute to throw light on all the phases through which Russian national economy has passed in these last few years.

§ 2. INDEX-NUMBERS OF RETAIL PRICES.

The study of the price movement during the revolutionary period in Russia was one of the principal tasks undertaken by the Institute for the Study of Economic Fluctuations established in Moscow in 1920 and directed up to the beginning of 1928 by Professor N. D. Kondratieff, an economist well known also outside Russia. Hence this Institute was founded about six months later than the famous National Bureau of Economic Research, of New York. At that date, the period of militant Communism, the commercial exchange on the home markets was still little developed. It was practically confined to retail trade in food stuffs. The Institute was then obliged to accept as a point of departure for its researches the calculation of the prices of a restricted number of types of commodities belonging especially to the class of food stuffs. It limited its action to following with attention the movement of the uncontrolled prices of the clandestine, that is to say, the non-legalised, trade in 39 products distributed in the following nine groups.

- Group I: cereal products.
- " II: pulse and edible fungi.
- " III: fish and meat.
- " IV: fats.
- " V: milk products and eggs.
- " VI: groceries for table use.
- " VII: non edible grocery wares.
- " VIII: lighting materials.
- " IX: clothing and foot wear.

The general index, as well as the group index-numbers, were established on the basis of the index numbers of the separate commodities, by the process of arriving at the arithmetic mean of these latter. The 1913 prices were adopted as the basis = 100. The index-numbers were calculated without the weighting which the Institute did not consider to be essential from the point of view of methodology, seeing that the weighted and the non-weighted index-numbers coincide very closely. Besides from the practical point of view, the weighting is almost impracticable, on account of the absence of precise data on the movement of marketable commodities in the period under review.

With the introduction of the New Economic Policy the movement of commodities underwent considerable changes, and as the "food stuffs" index was no longer satisfactory, it was worked out in January 1922 on a wider basis covering 98 commodities, including 52 food stuffs, and 46 non-edible commodities. All the commodities were divided into 13 groups. In this widened index the basis of calculation was still the prices of 1913. However in consequence of the radical modification which occurred in the price ratios during the period of the war and of the Revolution, and as the general index assumes a totally different character if established on another basis, it was decided to calculate the retail price index-numbers in relation to the position in January 1922.

The rapid process of the reconstruction of the Russian economy which in a very short space of time ran through all the phases of the capitalist economy, the development of which before the Revolution had occupied many decades, soon forced

the Institute for the Study of Economic Fluctuations to review the methods adopted up to that time for the calculation of the index-numbers. This measure became specially necessary after the introduction of the monetary reform. The average prices of April 1924 were then adopted as basis for the index, because about that time foreign coinage at a constant value had been introduced into the greater part of the Union. The prices were registered in a larger number of localities and especially where the effect of the market conditions became apparent with special rapidity and clearness, that is to say on the markets and in the bazars for the majority of the products, and in the private dealers' shops when the product under review was not offered on the public markets. Prices were collected on the markets of 97 towns of the U. S. S. R. representing all the regions of the Soviet Republic.

As regards choice of commodities and their differing qualities for establishment of index-numbers, the maximum of liberty was allowed to the local registrars, in view of the instability of trade and disorganisation of markets, in consequence of which there were perpetual changes in the type of commodities offered for sale. At the same time the registrars were obliged everywhere to keep strictly to the types once selected by them, and to establish a double entry for each case of change of quality, entering the price of the new quality and that of the former on the same day. In the same conditions it was only possible to establish the absolute level of the average prices for a limited number of commodities, but it was easy on the other hand to follow the fluctuations. This special character of Russian statistics resulted finally in the preparation of index-numbers on the "step by step" or "chain" method, to use the American terminology. This method, as is well known, consists in the adoption as statistical base unit of the price change of commodities occurring in the course of a given interval of registration, a "chain" being thus formed, so to speak.

In the opinion of A. W. Flux (1), the use of this method is "the only one certain way of ensuring that the selection of the base-year shall not influence the measure of price-change secured". As he points out, the advantages of the method lie in the fact that "a new commodity, or one newly arrived at a position of importance, can be introduced at any time without confusing the entire series of calculation. It is only necessary to secure a satisfactory price comparison with the preceding year in order to fit a new quotation into the scheme". In using this method the advantages of the geometric method of averaging in comparison with the arithmetic method, for the calculation of price indices, become readily appreciated. It was precisely these technical advantages of the geometric method of averaging, and not considerations of an economic and logical order, that induced the Institute for the Study of Economic Fluctuations to modify its method of calculating the price average.

In the new index-number it is only the indices of groups of commodities which are calculated without the weighting of particular commodities, while the general index is established on the basis of the indices of weighted groups. The importance, the weighting, of the different groups is determined in accordance with the data accepted by the Central Department of Statistics in the month of March 1923, referring to the transactions of the different branches of wholesale or retail trade. In consequence of these modifications, the new general index is reduced in comparison with the former. This circumstance is partially due to the application of the geo-

(1) "The Measurement of Price Changes", read before the Royal Statistical Society, January 1921 (*Journal of the Royal Statistical Society*, London, March 1921, pp. 174 and 180).

metric mean, which, in identical conditions, is always lower than the arithmetic mean, and partly also to the weighting of groups of commodities. As regards the importance to be given to the different towns of the Union in the formation of the general index, the total obtained from the figures returned has been fixed at 10,000: out of this total, which refers to retail trade, 2,631 units of weight were assigned to Moscow, 563 to Leningrad, 353 to Kiev, 241 to Kharkov, 229 to Odessa and so on, down to 14 for the towns of Murmansk in the extreme North of Russia and of Ribinsk in the basin of the Upper Volga.

The index-numbers of groups of commodities and the general index-number are complementary. The former constitute a very rich and very complete material making possible an analysis of the economic situation of the country, while the general index of prices mainly serves for the study of the purchasing power of the currency, or as the point of departure for the ascertainment of tendencies arising from the reciprocal relations of the group indices, as *e. g.*, the relations existing between price index-numbers of agricultural and those of industrial products. Mention may here be made of "the problem of the scissors", the study of which occupies a predominant place in Russian economic science.

§ 3. THE INDEX-NUMBERS OF WHOLESALE PRICES.

It was only in 1922 that the necessity became felt of studying along with the fluctuations of retail prices those of wholesale prices, and of including in these index-numbers, side by side with the prices of articles of consumption, those of the principal means of production. Before this period the importance of wholesale trade in proportion to all the trade of the country was somewhat insignificant, and the problem of the preparation of index-numbers of wholesale prices, the most important of the index-numbers in the case of Europe and America, had not become a present day problem. From the first the difficulties encountered in the preparation of these index-numbers were not merely those of a methodological kind, as for example the number and selection of marketable commodities, but also took the form of technical obstacles, especially in registration of wholesale prices. In contradistinction to retail prices, wholesale prices on the basis of which business was actually done by the State enterprises were properly speaking not ascertainable, as the transactions were not registered or only a very small proportion were reported to the Official Register of the Exchange. It thus became necessary to make use merely of current prices, prices shown in the sales lists of Government trusts and syndicates, prices which frequently differed considerably from the real prices, taking into account the different conditions of payment of commodities, or the greater or less demand for liquid money in the respective enterprises. However the wholesale market was developing gradually and was always becoming more normal; while the prices actually agreed upon approached more and more nearly to those shown in the current price lists for the sale of products by State enterprises. In certain cases the index numbers were drawn out on the basis of the real selling prices, as in the case of prices of cereal products, and also for the prices of meat according to data obtained from the municipal abattoirs, etc.

Another obstacle to the compilation of an index-number of the movement of wholesale prices was the absence on the market of a whole series of products, the importance of which in the national economy made it none the less essential that they should be included in the calculation of the wholesale index. Certain commodities, as they were passed from one trust to another apart from all commercial transaction, could not be regarded as merchandise. Thus flax fibre circulates for the most part within the Government factories which pass it on from one to

another at a price fixed conditionally in accordance with their own calculations, which do not reflect the actual market fluctuations. Cotton represents another example of a product which is not marketable, since it is not sold at all but exchanged directly for Indian cotton on the basis of a fixed equivalent, one pood of Russian cotton being equal to 110 *arshins* of Indian cotton. The price of the cotton is thus determined exclusively in reference to the Indian. Raw materials and semi-manufactured products can however have their proper fluctuation on the market, but these do not necessarily correspond to the fluctuations of their elaborated products.

The special conditions of the Russian market have also exercised a remarkable influence on the number and composition of marketable commodities included under the wholesale index. The number of items taken into consideration was 103, and the main branches of production and the goods of prime necessity were represented. The selected commodities were divided into 13 groups in the following manner:

1. Cereals, pulse, forages, oleaginous fats	13
2. Products of agricultural industries	12
3. Meat, fish, animal fats	11
4. Raw materials and manufactured products of the textile industry	15
5. Do. of the leather industry	9
6. Timber industry	3
7. Silicates, nitrates, etc.	6
8. Other chemical products	8
9. Metallurgical and metal industries	9
10. Electro-technical industries	2
11. Fuel products	7
12. Slates, building stone, etc.	5
13. Rubber industry	3
Total	103

In respect of the number of marketable commodities this index-number occupies an intermediary place between the wholesale index-numbers in Europe and America. It exceeds that of Sauerbeck which registers 45 commodities, that of the British "Economist" which since 1911 has included 44 commodities, that of the English Board of Trade which is applied to 45 commodities, that published by the *Statistique Générale* of France which also applies to 45, and that of the Statistical Bureau of the *Reich* where 44 commodities are taken into account. It on the other hand falls considerably behind the index-numbers of the Department of Commerce and Labor of Washington which is based on the calculation of the prices of 404 kinds and sorts of merchandise, also behind that of the American Board of Trade which registers 150 kinds of merchandise, as also behind that drawn out by the Provincial Council of Economy of Milan which applies to 125 items. The Russian wholesale index is most closely approximate to the Bradstreet American index-numbers which give the wholesale prices of 110 items. Comparing the percentages of the number of commodities on which the wholesale price index-numbers are based, and dividing them into two groups, edible and non-edible products, the following ratios are obtained:

Wholesale Price index-numbers	Total number of items	Percentage of products	
		edible	non-edible
Moscow Institute for the Study of Economic Fluctuations . . .	108	27	73
<i>The Economist</i> (London)	44	36	64
American Board of Trade	150	35	65

This little table makes it possible to establish that in the wholesale price index of the Moscow Institute the relative ratio of the two groups of products, *i. e.*, edible and non-edible products, is nearly equal to that of the same groups in some of the most important English and American index-numbers. In the index of wholesale prices of this Institute special regard is had to State trading, as is also done by the Higher Council for National Economy, while the wholesale price indices of trade in general have been calculated beginning from the month of August 1922 by the Higher State Commission for the scheme of organisation of the national economy (*Gosplan*) and beginning from 1927 by the Central Department of Statistics at Moscow (1) The wholesale index numbers at present published by the Central Department are index-numbers which have been weighted by adopting the "chain" method and in consequence also utilising the geometric method of averaging.

These index-numbers are calculated for each kind of commodity separately; for the different agricultural products 17 index-numbers have been established, *i. e.*, for wheat, oats, hay, rye flour, meal, potatoes, beef, pork, mutton, bacon, eggs, butter, cotton, flax, and sheep's wool. In addition to these index-numbers which apply each to a single product, index-numbers have been established for eight groups of commodities as follows:

1. I. Articles of personal use.
2. Articles of technical and industrial use.
3. Cereals and forages.
4. Food stuffs, including:
 - (a) meat and bacon,
 - (b) butter and eggs.
5. Agricultural raw materials.
6. Fuel.
7. Metals and metallurgic products.
8. Textiles.

The index-numbers are further grouped into two main groups forming wholesale index-numbers for the agricultural products on the one hand, and on the other an index for all the manufactured industrial products. It is on the basis of these index-numbers that the general index has been established. All these index-numbers are determined for each month and subsequently compared with the index-numbers of the preceding months of the same year, and with those of the corresponding months of the preceding year as also with those of 1913. All this system of index-numbers worked out on these lines refers to the whole of the Soviet Union, as also to each of the five following regions: 1. the wheat producing region; 2. the wheat consuming region and the town of Moscow; 3. the Ukraine and the Crimea; 4. the Northern Caucasus, and finally, 5. the City of Moscow considered apart.

(1) It may be noted here in passing that towards the beginning of 1928 the Moscow Institute underwent for various reasons certain changes, and in addition it was placed under the Central Department of Statistics instead of, as formerly, under the People's Commissariat of Finance.

§ 4. THE INDEX-NUMBERS OF THE PRICES OF SOCIALISED TRADING (STATE TRADE AND CO-OPERATIVE TRADING).

The gradual reconstruction of the market brought about a constant rise in the figure representing transactions; in 1926 it amounted to nearly 29 milliards of roubles, or, taking the average price index, *viz.*, 2.12, to 14 milliard prewar roubles, in other words, 95 per cent. of the turnover of that time. This rapid increase in commercial capital, precisely the result envisaged by the N. E. P., could only have one outcome in a country, such as the Soviet Union, where socialism is always on a more or less distant horizon, *viz.*, that the economic importance of the reviving capital should equally be considered from the social standpoint. It was highly important not only to be in a position to establish, from that time forward, the total amount of this capital, but also to ascertain its peculiar characteristics, to know to what extent this swelling of the turnover is due to the development of socialised trading, whether State or co-operative, and up to what point it had been brought about by the intervention of particular traders, the *nep-man* or speculators in the town, and the *kulak* or well-to-do peasant farmer in the country. The following table gives the ratios which make it possible to judge of the socialisation of the trade in commodities and of the importance of the private trading during the five years immediately following the institution of the N. E. P.

Ratios between the different sections of trade, socialised and private trading in 1922-1927 (expressed as percentages).

Years	Socialised trading			Private trading	Total
	State	Co-operative	Total		
1922-23	36.6	9.5	46.1	53.9	100
1923-24	30.7	27.7	58.4	41.6	100
1924-25	39.5	34.2	73.7	26.4	100
1925-26	34.0	42.3	76.3	23.7	100
1926-27	34.1	47.8	81.9	18.1	100

These figures may be merely illustrative but are however significant enough. It is clear that the increase in the socialised trading is especially due to a development in co-operative trading, passing from 46.1 per cent. in 1922-23 to 81.9 per cent. in 1926-27. At the same time, the proportion of private trading is reduced from 53.9 per cent. to 18.1 per cent. This socialisation of the commercial exchange has come about not merely as the result of the rise in the turnover of the State industry, but also because the Government and co-operative undertaking are gradually succeeding in obtaining command of the agricultural market. In 1924-25 the quantity of wheat stored by the State public undertakings and the co-operative societies amounted to only 60 to 62 per cent. of the whole quantity of wheat collected for the supply of the town population, while in 1926-27 these undertakings and societies already held 80.5 per cent. of all wheat stored for this purpose.

This change in the social structure of Russian trade obliged the Institute for the Study of Economic Fluctuations in the course of 1926 to widen the basis of its system of index-numbers of retail prices. The reform consisted in establishing along with the retail price index-numbers in private trading, similar index-numbers for State and co-operative trading. Beginning from the month of May 1928, the two last index numbers were combined into a single index of socialised trading. Each of these index-numbers is calculated separately on the basis of the registered prices by the help of a special weighting system. This system of index-

numbers, which is based on the statistics of turnovers, reflects the mutual relations existing between the different types of trading in the various economic regions and the different towns. The price index of socialised trading and that of private trading are combined into a general index of the prices of retail trade for the whole Union, an index-number obtained from the separate index-numbers under the form of a weighted average, that is to say, by calculating the proportion of the general retail trade which belongs to socialised trading and the proportion which relates to private trading. Sub-index numbers are simultaneously established (separately under each index-number referring to the type of trading): 1. for agricultural products, 2. for manufactured products; 3. for separate groups of commodities, to the number of 19 and including precisely: cereals, pulse, meat, dairy products, fish, vegetable oils, salt, tea, sugar, tobacco, textiles, boots and shoes, metals, earthenware, soap, matches, petroleum and motor-spirit, timber and, lastly, stationery. The fullest attention was given to the improvement in the precision and the reliability of the data referring to the prices in the different localities. The number of marketable commodities included was increased and instructions were given for the adoption of the metric system in fixing the quantity and measurement of commodities. The prices of the base periods were reviewed, corrected and for the most part freshly calculated. It was decided to utilise as base period the economic year 1924-25, as being the year which immediately followed the monetary reform. The year 1913 has been preserved as the second base period.

The weights applied to the commodities, as well as those already assigned to the economic regions and to the towns, are not equivalent in the different classes of trading. The results of this is, that the differences between the price index numbers for each class of trading may be due not merely to the difference between price levels but also to the inequality in the weighting. If, taking a case, it appear for a group of commodities that the price index-number of State trading is higher than the corresponding index-number of co-operative trading, this does not always mean that the price level of the same commodity is higher in governmental trading as compared with co-operative trading. This difference may equally occur when the prices are the same or equivalent, if the weighting assigned to the towns where higher prices rule is higher in State trading than in co-operative trading.

This same circumstance has repercussions also on the general price level of the separate classes of commodities. Although the index numbers of the Government trade in agricultural products and manufactured goods were during the year 1927 lower than the corresponding index-numbers of co-operative trading, the general index of the prices of Government trading was higher. This is easily intelligible if it is noted that in co-operative trading the weighting applied to agricultural products, the index of which has since 1922 remained lower than that of manufactured goods, constitutes 41 per cent. of the total weight, and that applied to manufactured commodities constitutes 59 per cent., while in the Government trading the corresponding figures are respectively: 22 per cent. and 73 per cent. And it is in this way that the predominance of the weight attributed to manufactured goods in Government trading makes the general index of this latter rise as compared with the index of co-operative trading.

§ 5. FIGURES INDICATING THE TREND OF NATIONAL ECONOMY.

As by the Socialistic regime an endeavour is made to safeguard the country against the economic crises of the capitalist regime, and as an attempt is thus made to prevent a disequilibrium of the relations of the different branches of the national

economy, this regime makes it necessary that there should be a previous elaboration of a general plan of all the State economy of the country, the orientation and development of which must closely follow the directives of such a plan. This general principle applies very particularly to the special conditions of present day Russia, surrounded by a foreign economic universe the reality of which, as also its ideal aspirations, differs so markedly from its own. Although the difficulties of economic relations with other countries show a tendency to gradual smoothing out, contemporary Russia is still that kind of isolated State described by Thunen, and for the development of its next stage, it can count only on its own effective resources. The socialised part of its economic resources include almost 80 per cent. of all its industry, all the means of transport, more than one half of the wholesale trade, the most important credit establishments; the foreign trade is a State monopoly, all the land is nationalised, etc. The part played by private initiative is only important in peasant farming and in retail trade, but these two branches of the economic life of the country are none the less subjected to the dominant socialistic tendencies. The object of elaborating figures which are to indicate the trend of the national economy is precisely to determine the development of these two differing branches and to forecast, although only on general lines, the evolution of Russian economic life in its totality. These figures are drawn up by the higher organs of the State separately for each main branch of the economic activity. For agriculture the figures are collected and elaborated by the People's Commissariat for Agriculture; they are then submitted, as well as the other figures, to a careful revision and to the approval of the Presidency of the Higher Commission of the State for the plan of the national economy (*Gosplan*). The first elaboration was done by this Commission in 1925, for the economic year 1925-26. The date for drawing up these figures usually falls during the months of July to August, since Russian economy, as is well known, is very closely connected with the results of the wheat harvest, the total of which cannot be determined with any degree of accuracy before that period. The figures are elaborated for one year, or even for five years, in advance. From these figures, determined in this way on the basis of statistical data and index-numbers relating to the results obtained in all the main branches of the national economy, it is possible to forecast in a measure the economic development of the country and at the same time to establish the lines which should be followed by the State economy.

The principal method employed for the elaboration of the plan of State agricultural policy and of special interest in this connection is a genetic method amplified as found to be necessary by a teleological method. In the first instance an endeavour is made to establish the characteristics and the tendencies of the development of the rural economy and to determine its significance from the point of view of its progress or the reverse. It will thereupon be possible to establish in proper sequence the results which can be obtained in consequence of this development, that is to say, it will be possible to define the problems that can be solved in the near future. The ends to be attained are, consequently, established exclusively on the basis of objective investigations relating to the tendencies of the development of rural economy, and that in the course of different periods, the pre-war period, that before the Revolution, the period of militant communism and that of the N. E. P. The basic problem of the evolution of the agricultural economy is regarded as the necessity of directing the process of the development towards collectivism, or as far as the immediate future is concerned, towards the diffusion to the widest possible extent of co-operation in agriculture. The plan of the rural economy is determined, not in isolation from, but as forming an integral part of, the whole economy of

the country and, above all, in relation to industry. In respect of industry, agriculture is not only a source of raw materials, but also a consumption market of manufactured products. Taking into account the fact that before the war the development of Russian industry was somewhat inconsiderable, the watchword for the determination of these guiding figures in respect of agriculture is undoubtedly the increase of the specific importance of industry, giving a development as harmonious as possible of these two main branches of the national economy.

The figures which are to indicate the trend of the national economy are transformed into units of measure which serve to indicate the "physical" spread of the development of each individual branch of Russian economy, and also into monetary units. By way of example, it may be noted that in the plan drawn out in the spring of 1929 and taking as basis the results already obtained as regards agriculture and following the prices of 1926-27, a gross agricultural production is forecasted for 1932-33 of a minimum of 19,760 million roubles as compared with a total of 13,980 million roubles in 1927-28, or an increase of 41 per cent. The value of the agricultural products intended for the market should amount in the same period of time to 5,330 million roubles at least as against 2,900 million roubles, or an increase of 84 per cent.

It is obvious that these figures merely represent a series of statistics giving guidance as regards the definition, quantitative and qualitative, of the immediate development of the economic life of the country. In this respect, the activity of the "Gosplan" may up to a certain point be compared with that of the German *Reichswirtschaftsrat*, the French *Conseil National Economique* or the Italian *Consiglio Superiore dell'Economia Nazionale*, but it is essentially distinguishable from the activity of these Higher Economic Councils, formed after the war. The work done by these latter for the economic policy of their country consists in presenting the results of discussions on the separate problems that at any given moment call for solution by the competent Ministries or by the Parliaments, while in Russia, in the "Gosplan", all the phenomena of the economic life of the country are being studied on permanent lines in their entirety and an endeavour is being made to determine its development as precisely as possible for a period lasting from one to five years.

Certain sides of the methods and certain parts of the systems of elaboration of these guiding figures are often criticised by the representatives of the practice and theory of economics, but no one among them throws doubt upon the great importance of these figures for the U. S. S. R., which has created a totally new economic milieu. In submitting to the Presidency of the "Gosplan" of the U. S. S. R. the first of these figures for the rural economy of the year 1925-26, Professor Kondratieff, said, *inter alia*: "The more or less considerable divergences from the established plan, divergences which are inevitable from the very fact of the mutability of actual life, do not in any way detract from its importance. These divergences simply show that the work necessitated by the elaboration of the plan is complex, and that this elaboration, in view of the changes in the actual conditions, can never be finished and that in consequence such work is, by its very nature, a permanent part of the scheme".

By means of these figures a beginning is made towards the solution in particular of the problem of the disproportion between the prices of agricultural products and those of manufactured products, and towards some possible clearing up of the problem of the "scissors" (1). This problem presented itself for the first time

(1) We have elsewhere shown that the "scissors" problem has an international character and that it is only on account of the special conditions of the environment that it has acquired in Russia a character

in October 1922, as the outcome of a good wheat harvest, and it reached its zenith in October 1923, when there corresponded to the base prices of 1913, taken as equal to 100, a price index of manufactured products equal to 1,690 and that of agricultural products equal to 890 or in other words the ratio between the former and the latter was 1.91.

Beginning from that moment the blades of the scissors began to converge by degrees, especially in August 1928, at the time of the rise in cereals prices, but none the less the problem of the "scissors" remains at its acute stage to the present time. Its economic significance lies in the fact that the "scissors" make difficult of access for the farm the means of production, such as farm machines, fertilisers, etc., and force agriculture to assume the type of peasant farming which is self-sufficing, and where the element of commercial transaction is much reduced. The social importance of the "scissors" lies in the fact that they bring about a movement of a considerable part of the national income from the country to the town, and thus create a disproportion between the well-being of the urban population and that of the rural population. It is for this reason that the idea of getting rid of the "scissors" dominates all the schemes of direction based on the guiding figures. All these plans and forecasts have as the point of departure the stabilisation of the prices of agricultural products and the possible reduction of the prices of manufactured products, achievements which would do much to secure the well-being of the country-side.

§ 6. ATTEMPT TO CALCULATE A GENERAL ECONOMIC INDEX-NUMBER (ECONOMIC BAROMETER).

The calculation of a single index-number for all the economic life of Russia, capable of measuring regularly economic fluctuations, in other words of an economic barometer, involves the application of the methods of establishment of index-numbers of prices to observations of the entirety of the phenomena of economic life. The economic barometer is the synthesis of the analytic process which consists in dividing all the economic data available, according to the principle of division accepted, into certain groups, and then deducing from the whole of the statistics the most characteristic index-numbers. The system of elaboration of such a single general index has been in part borrowed by the Moscow Institute from the best foreign methods of calculating economic index-numbers, *e. g.* the method of the Board of Trade in England, for which Flux is responsible, that of the American Bureau of Labour, established by Mitchell, etc. At the beginning, at the time of the formation of the single economic barometer in May 1923, it included 26 index-numbers of the economy of the country grouped in these six series of index-numbers as follows: 1. price, 2. position of the national economy (taxes, revenues of the People's Commissariat for transports, total of the paper money in circulation, etc.), 3. heavy industry, 4. light industry, 5. transport, 6. labour market. The basis (= 100) has been constituted from the monthly averages of the first half of the economic year, October 1922-March 1923. The averages have been calculated with the help of the geometric method of averaging, with the exception of the price index-numbers, which were at that time, as has already been stated, still calculated by the Institute on the basis of the arithmetic mean.

Towards the end of 1924, the basic data of the economic barometer were modi-

fied. 35 index-numbers were taken, divided into 8 groups a special group for trade was introduced; the series relating to the economic conditions of the country were divided into two sections (monetary circulation and credit); a new base period was also accepted, April 1923 to May 1924, that is to say, the period immediately preceding the monetary reform. But in spite of all these modifications, the economic barometer, in which were combined series of index-numbers differing entirely from each other, did not faithfully reflect the actual position of the economic life, and it was not sufficiently symptomatic in view of its highly abstract character. Beginning from 1925, attempt to calculate the total economic index was given up. From that time seven distinct series only of economic index-numbers are determined, which are precisely as follows: the index-numbers of the State finances, the index-numbers for prices, monetary circulation and credit, trade, transport, industry and the labour market. At the present time, however, Prof. Pervouchin, one of the best known economists of contemporary Russia, is working at the establishment of a new economic barometer, utilising especially the methods adopted by the Economic Bureau of the University of Harvard. M. T.
(to be continued).

INTERNATIONAL AGRICULTURAL ECONOMY

The Sugar Question in the Pacific Countries.

The Fourth Pacific Science Congress having been held at Bandoeng (Java) from 16 to 25 May 1929, it would seem of interest to give a statement of the balance of production and consumption of sugar in the different countries lying round the Pacific Ocean. Within the last few years the problem of sugar has become of the highest interest for the whole world and especially for the Pacific, on the shores of which lie certain countries which are very important sugar producers. In addition, the importance of this problem is increased by the fact that it is claiming the serious attention of the League of Nations. Expert opinion has been presented to that body on questions of sugar cultivation and sugar refining alike for cane or beet sugar. In this connection some figures may be given with respect to sugar in the countries under review. This article however is only to be regarded as a commentary on the tables that accompany it.

The countries here dealt with are those which lie on the west coast of the Pacific, viz., China, Manchuria, Japan, including Corea and Formosa, the Philippines, Indo-China, the Dutch Indies (in particular Java) and Australia (Queensland, New South Wales, Victoria).

On the east coast there are of course: Canada, the United States, Mexico, Central America, Peru, Chile; and in addition the Fiji Islands and Hawaii belong to the Pacific region.

All these are producers of sugar. In Japan, Corea, Formosa, Philippines, Java, Queensland, Fiji, Hawaii, Canada, the United States and Mexico there have been regular increases in production. The production of Central America and Peru has diminished in recent years.

Exact particulars and figures are available for all these countries except Manchuria and China, for which only approximate data are in existence. In the following tables the estimates for the 1929 production are given as published by Dr. MIKUSCH at Vienna. The consumption figures are those of 1928 increased by 5 per cent., as in the course of the last few years consumption has gone up steadily

by about 5 per cent. Under production is included both cane and beet sugar. Native grown sugars and non-refined sugars which do not come on the world market are not included in this estimate.

TABLE I. — *Countries of the Pacific West Coast.*
(1000 metric tons).

	Production	Consumption	Imports	Exports
China, Indo-China	260	472	212	—
Corea	30	—	—	—
Japan	160	930	70	—
Formosa	670	—	—	—
Philippines	620	72	—	548
Java	3,205	295	—	2,910
Australia	526	456	—	70
Total	5,471	2,225	282	3,528
Excess				3,246

From the above figures it will be seen that there is a large surplus production in the countries under review. The Philippine surplus is directed almost entirely to the United States (476,071 tons), that of Australia to the other parts of the British Empire, and the huge surplus of Java is sent to Japan (273,278 tons in 1928), China (314,708), Siam (34,687), Philippines (872), Penang (23,593), Australia and New Zealand (46,481), Indo-China (7,448) and to Europe (129,400).

Japan is trying to meet her own needs from her own territories by gradual improvement of home production and that of the Japanese colonies (Formosa, Corea, etc.), with the result that at present it is only necessary to import a very little and in the near future no import will be necessary. There is no certainty about the figures of production and consumption in China: the fluctuations are very marked.

TABLE II. — *Countries of the East Coast of the Pacific.*
(1000 metric tons)

	Production	Consumption	Imports	Exports
Canada	36	426	390	—
United States	1,204	6,174	4,970	—
Mexico	190	200	10	—
Central America	130	99	—	31
Peru	344	44	—	300
Other countries of South America	80	230	150	—
Total	2,984	7,173	5,520	331
Excess	—	—	5,189	—

As opposed to what occurs in the west coast countries there is found in the American countries a large excess of imports higher than the surplus production of the Asiatic countries including Australia. Canada and the United States, however, which are the largest consumers and importers of sugar do not depend in this respect upon the above countries but are supplied from Hawaii and Cuba. The sugar-growers of Florida anticipate also that in the future the United States requirements will be met by the production of United States territories.

TABLE III. — *The Pacific Islands* (1).

(1000 metric tons).

	Production	Consumption	Export
Hawaii	850	20	830
Fiji	110	10	100
	960	30	930

These Pacific islands produce a large quantity of sugar for export. The Hawaii sugar is exported to the United States and Fiji sugar cane goes to other parts of the British Empire.

According to the preceding figures it must be concluded that in the Pacific region there will not be a deficit in sugar but on the contrary a surplus, and it will be seen that the large deficit of the American countries may be covered by the producing countries such as Hawaii and the West Indies. In 1928, Cuba exported to the United States 2,861,125 metric tons, Porto Rico, 582,937 and Hawaii 683,487. The Canadian deficit is covered by 49,854 tons from Cuba.

Java and the Fiji Islands are the only producing countries of the Pacific region which are obliged to find markets for their sugars outside the region. Fiji regularly supplies the British Empire and Java has to find open markets. In 1928, the sugar industry of Java was obliged to export to markets other than in the Far East a quantity of 342,912 tons. Certain political complications may tend to make regular export difficult, and in that case it would be Java that would be the first to suffer from any such check on the sugar exports. However even apart from difficulties of this kind, conditions for the Java sugar export become less and less advantageous and may be said to be precarious, as production in the case of a number of countries which grow sugar although still obliged to import is steadily increasing.

A. J. K.

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ECONOMIC AND SOCIAL CONDITIONS OF THE AGRICULTURAL CLASSES

Enquiry into the Economic Conditions and the Profit Capacity of the Peasant Farms in Poland.

On an examination of the results of the agricultural production in the different departments of Poland, there is frequently found a striking want of proportion to the natural conditions. This fact, which clearly points to an unequal degree

(1) The remaining sugar producing countries which are of no great importance are omitted.

of intensity of production, is explained mainly by the difference in the economic, social and juridical tendencies which influenced in a special manner the development of agriculture in each of the three former provinces incorporated for more than a century, after the third partition of Poland, in one or other of the States which divided Poland between them.

The figures of Table I show certain characteristics of the position of agriculture in Poland, during the first period after the war. The departments are grouped in accordance with the country to which they were politically attached before the war and according to their geographic situation from west to east (I).

Although this table is far from showing all the post-war features of the position of Polish agriculture, it indicates sufficiently well the heterogeneous

TABLE I. — *Characteristic Features of the Position of Agriculture in Poland during the first post-war period.*

Former Pro- vinces of	Departments	Population and public instruction		Agricultural structure		Characteristics of organisation and results of agricultural production												
		density of population per square kilometre	rural population in percentage of the total population figures	number of towns per 10,000 km ²	number of pupils in the primary schools per 1000 inhabitants	area of the peasant holdings (up to 50 hectares) as percentage of the total area	number of the small peasant holdings (up to 5 hectares) as percentage of the total	number of peasant holdings (up to 50 hectares) in percentage of the whole area of land under cultivation	area of land under cultivation in percentage of total area of country	Percentage of the area of the fields under			Density of farm-animals per 100 ha. of cultivated land			Degree of		
										cereals	sugar-beet	other rootcrops	horses	cattle	pigs	intensity	productivity	
	Poland	70	75.1	16	118	64.4	63.5	74.2	65.5	55.9	0.9	14.2	13.4	32.6	21.4	84.05	7.54	
Germany	Poznan	74	65.8	14	182	47.2	10.1	86.3	76	53.6	3.7	18.2	13.5	42.5	46.3	114.50	13.78	
	Pomerania	57	74.5	18	176	46.9	43.5	83.3	67.8	42.9	1.6	15	13	36.6	42.5	86.10	9.49	
	Silesia	266	77.2	40	174	—	—	77.8	50.6	49.7	0.8	23.7	9.1	63.8	73.8	103.04	9.33	
Austria	Cracow	114	77.3	29	155	77	78.2	73.7	71.2	61.5	—	19.7	12.2	56.9	20.7	94.50	7.16	
	Lwow (Lemberg)	101	78.2	22	142	69.4	79.6	69.6	69.6	63	0.4	15.4	18.8	45.1	18.8	86.20	7.04	
	Stanistwów	73	81.8	16	127	61.2	82.3	53.2	60.2	61.4	—	17.8	11.5	37.4	11.6	74.25	5.65	
	Tarnopol	88	85.9	22	121	66.6	81.3	83.1	76.3	63.5	—	13.5	18	20.4	17.5	97.35	8.58	
Russia	Lodz	118	6	6	20	128	71.5	66.8	83.6	78.5	60.3	0.7	19.1	13.3	40.6	20.1	107.05	10.66
	Warsaw	103	55.3	19	92	66.6	52.7	82.2	80.3	56.6	2	16.2	13.1	34.1	21.9	99.86	9.91	
	Kielce	99	78.4	14	112	70.2	75.4	80.7	67.6	61.8	0.4	17.3	15.6	38.4	17	88.50	9.10	
	Bialystok	40	76.4	14	83	70.8	32.3	71.2	63	50.5	—	11.2	11.5	21.1	17.1	69.05	5.97	
	Lublin	67	83.3	10	114	72.1	64.1	76.7	71.4	62.9	1	18.2	15.4	31.1	21	92.55	9.46	
	Wilno	35	71.2	4	70	65.6	68.4	57.9	68.4	—	—	9.7	9.9	11.2	2.8	71.95	4.38	
	Nowogrodek	36	91.2	6	58	65.3	14.4	72.2	59.1	44.6	—	7.3	9.4	17.7	16.8	58.70	4.31	
	Polesie	21	86	7	34	49.8	—	56.3	48.3	30.2	—	6.6	5.4	18.4	10.1	43.45	2.94	
	Volhynia	48	87.8	8	49	71	—	70.2	55.5	65.6	0.6	7.8	18.2	20	23.6	76	6.43	

(1) The degrees of intensity and those of productivity have been calculated by Prof. Schramm; the degree of intensity results from the calculation of the ratios between the areas covered by the plants to be grown and the of the area land under cultivation: a multiplicator is introduced to fix the relation of the intensity between the different kinds of plants, e. g., for wheat 1, for sugar beet 4. To establish the degree of productivity, the average crop figures per hectare are taken into account and these are also reduced by means of a special multiplicator.

character of the agricultural production of the country which to some extent still prevails. Undoubtedly natural conditions will always impart a special character to agriculture in different regions ; but it may with justice be said that the figures of this table would appear quite other if Polish agriculture had been able to develop amid the economic and social conditions and under the legislation of a single State. For example, the difference between the degree of productivity of the departments of the North-West and that of Wolhynia would be the other way ; the results of the agriculture of this latter region, which has an excellent soil, remain far below the level of those of the North-West departments where the agriculture has been able to reach a much higher level, in spite of less favourable natural conditions. Some other pre-war figures testify to the same phenomenon :

	Congress Poland	Galicia	Poland formerly Prussian
Average crop in quintals per ha., wheat	12	11	22
Average crop in quintals per ha., potatoes	91	99	155
Average consumption of artificial fertiliser in kg. per ha.	42	25	200
Number of peasant holdings up to 5 hectares expressed as percentage of the total number of farm holdings	74	83	67
Area of these small holdings expressed as percentage of the total area	15	29	7

Although the above statements cover only some of the main features of the position of Polish agriculture before and after the war, the very interesting phenomenon of parcelling out being one which should also be taken into account, they are sufficient to show the importance of the problem of agriculture in this country at the beginning of the new and independent life of the Polish State.

In Poland, in view of the excellent character of the soil and the numbers of the rural population, agriculture plays a very important part in the national economy. Poland must be regarded as an agricultural State, although possessing a considerable industry in several branches. It is thus a prosperous agriculture which is the primary means of ensuring a complete development of the economic and social life of the Polish State. If note be taken of the activity which has been manifested in Poland since the first post-war years to the present time, the evident progress made by agriculture in spite of many obstacles is obvious. In conditions which have not always been favourable for the vigorous advance of agriculture, it has been found possible, none the less, not only to repair the losses caused by the war, but also to achieve a considerable increase in production and a general improvement in its position. Within the last few years such progress has been increasingly marked, thanks to the vital forces of agriculture, to the efforts of scientific institutions and agricultural associations, in particular of the co-operative societies which are always increasing in numbers, and not less also thanks to the agrarian policy of the Government.

Polish agriculture is gradually being brought to a point in intensity of production which will correspond to the natural conditions in the various regions. To attain this end, emphasis must be laid on the all important factor *viz.*, the farmer himself and the character of the whole structure of agriculture. The figures in the table show quite clearly that there is an absence of public instruction in certain departments ; they also show that small peasant holdings preponderate in the agricultural structure, and also that there is a not very advantageous relation between the different groups. Hence it is the small farmer who is the determining factor in the development of Polish agriculture. Not only should he be ensured protection

by all possible means, and in particular by establishment of a more convenient system of agricultural credit, but careful attention must be given to his education and special instruction, with respect always to his psychological characteristics ; thus by degrees a satisfactory organisation of the agricultural structure can be brought about. Finally all the solutions of the agricultural problems and all the tendencies of agricultural policy must be based on the actual conditions of Polish agriculture in general and of that of the different departments in particular, but it is essential also that the objects of the future development should not be lost sight of, and in particular the strengthening of the small peasant holdings, and the establishment of harmonious relations between the different regions of the country. Much, especially in recent years, has been accomplished as regards the realisation of this programme. The agrarian reform, the organisation of public and special instruction, the constantly increasing number of the societies and unions of farmers and the activities of these, agricultural co-operation, the organisation of institutes and institutions for scientific research, and the publication of their results, in a word, all the manifestations of active agricultural life, indicate that an attempt is being made to guide Polish agriculture on the best possible lines, the small farmer being regarded so to speak as the pivot, and every endeavour being made to raise him to a higher level, economically, socially and intellectually. Continued attention will have to be given to these questions relating to the small farmer, for in each period different problems arise for solution in accordance with new conditions and economic requirements. It is essential to have a thorough knowledge of the position of the different groups of peasant holdings, to study their various types, to observe all the changes in economic conditions, so as to be in a position to take effective measures in agrarian policy ; at the same time the small farmer must himself be taught how to carry on the work of production in accordance with the principles of rationalisation and trade. It is moreover the profits from his enterprise and the remuneration of his work, that is to say the return, which determine the spirit of enterprise in the farmer and consequently the common economic interest of the whole country. In this connection, we must recognise as a fact of essential importance the formation of a Selection of the Rural Economy of Small Farm Holdings at the State Scientific Institute of Agriculture (*Wydział Ekonomiki Rolnej Drobnych Gospodarstw Wiejskich v Państwowym Instytucie Nankowym Gospodarstwa Wiejskiego*) at Putawy. This Institute, which with its branches at Bydgoszcz, Warsaw, Hel and Lwow was up to the present a higher institution for scientific research intended for practical application on farms, has in this way completed its organisation by adding to its technical research sections a section of rural economy.

It was at the Congress of Polish Peasants, held in June 1924 at Warsaw, that the first steps were taken for the formation of an Institute of Economic Research. After discussions and enquiries among the most important of the farmers' societies, the Ministry of Agriculture approved in February 1926 the decision taken by the Putawy Scientific Institute in regard to the creation of the Section already mentioned, Prof. Fr. Bujak being appointed as chief. If the economic and social position of the small farmers is to be studied and if practical action is to result, the first requisite is a solid basis of systematically collected facts. The decision of this new section to proceed at once to the establishment of farm accountancy was therefore an admirable one. As a matter of fact the systematic practice of accountancy in Poland in respect of the peasant holdings can only be said to date from that point of time.

Farm accountancy institutions, it is true, existed before the war in Posenania, Galicia, the Ukraine and in the Kingdom of Poland ; these however were concerned rather with the book-keeping of large estates or farm undertakings. For example,

the average area of the farms registered at the Farm Accountancy Office at Warsaw was, in the year 1909-10, 1745 *morgen*, and in 1917-18 it was 1034 *morgen*. Mention should also be made of the work already accomplished by certain Farm Accountancy Offices, especially by that of the Little Poland Agricultural Society and by that of the Pomeranian Chamber of Agriculture; but in these cases the research so far as concerned the small rural holdings was quite fragmentary. The number of the holdings was too small and the statistical analysis of the results was inadequate besides being undertaken only infrequently. In addition the returns only related to the provinces which were within the jurisdiction of the respective offices (1).

The foundation of this Section, the programme of which includes the systematic following out of all the economic questions relating to the small farm holdings of the whole country, should thus be hailed as a fact of great significance for the progress of Polish agriculture. Moreover at a period when efforts are being made to study the problems of agriculture increasingly from the economic point of view, using statistical and even mathematical methods to arrive at the solutions, and when it is increasingly realised that accountancy is one of the most important bases of these studies, this event taking place in a agricultural country of so great an importance cannot fail to be of interest to other countries. It is for this reason that we intend to outline a brief account of the organisation of this section and of the methods employed by it as well of the first accountancy results obtained in the agricultural year 1926-27 and published under the title "*Badania nad rentownością gospodarstw włościańskich*" (Enquiries into the earning capacity of rural holdings, Part I. Ing. Yan Curzytck, Prof. Dr. Fr. Bulak) (2).

In accordance with an understanding between themselves, the Section and the 7 principal agricultural societies have divided the work among themselves; the societies have undertaken to do propaganda work among the farmers and to carry out, as preliminary work, the establishment of the farm inventory and the description of the holdings as well as the instruction of the farmers as regards the keeping of the books. This part of the work has been done by the district instructors of these Societies and by the directors of the agricultural schools. The farms undertaking this accountancy have been visited in the course of the year by the instructors. After closing the accounts on the basis of the entries of the farmers and those of the instructors, the offices established in the Societies have sent the complete material to the Section, which then checks and elaborates statistics. The system of weekly reports, drawn up by the farmer in duplicate, one copy kept by himself and one sent to the Office, has been adopted in accordance with the model of the *Institut de Comptabilité et d'Economie Rurales de Tchécoslovaquie* (Prof. Brdlik), and following that of the Accountancy Office of the Agricultural Society of Little Poland. The accountancy method employed is the single entry, and the method of closing the accounts is the Laur type. The accounting year begins on 1 July. The total number of accounts to be closed has been fixed at 500 and it has been proposed, as a beginning, to obtain from each Society a certain number of closures fixed

(1) Thus the report on the earning capacity of the large farm holdings, contributed by M. Rolbiecki in the Review "*Roczniki nauk rolniczych i leśnych*" year 1928, Vol. XX, A, based on the results of the farm accountancy carried out in accordance with the system of the *Deutsche Landwirtschaftliche Gesellschaft* by the Accountancy Office of the *Velkopolska Izba Rolnicza* (Chamber of Agriculture of Great Poland) for the large holdings, the smallest group of which includes those with an area of from 100 to 250 hectares, has only a local interest of a special kind, although the report and the methods followed merit careful consideration.

(2) This serves also as a complement to the section relating to Poland contained in the monograph of the International Institute of Agriculture: *Les Offices de Comptabilité agricole dans les divers Pays.* (Rome, 1924).

in advance ; for example, the Pomeranian Chamber of Agriculture is to supply 20 closures, the Chamber of Agriculture of Great Poland 40 and so on.

The area of the holding is not exceed 50 hectares ; thus, the size groups are distinguished as follows : 2-3, 3-5, 5-10, 10-15, 15-30, 30-50 hectares. The number of the holdings with an area of from 3 to 30 hectares has been fixed at 80 per cent. of the total number ; the number of holdings of urban character is not to be more than 5 per cent. of the total number. The remaining 15 per cent. includes the very small holdings up to 3 hectares and those the extent of which exceeds 30 hectares. When the accountancy was organised at first for 700 holdings, the presumption was that a certain proportion would fall out in the course of the year ; 450 closures of accounts have been obtained. The percentage of the number of holdings which have supplied their accounts is as follows in the separate groups :

Up to 3 ha	3-5 ha.	5-10 ha.	10-15 ha.	15-30 ha.	30-50 ha.
4	11	29	24	25	7

It has not been possible to obtain the returns exactly as was proposed : this has been still more obvious in the provinces, in view of the differing character of the agrarian structure in the separate departments. In order to establish statistics, it was necessary to exclude 16 closures the results of which were doubtful. Hence the statistics relate to 432 farm holdings, the average area being (a) 13.5269 ha. including forest land, and (b) 12.6731 ha. not including forest land. In Poland, according to the census of 1921 the average area of all the holdings with an area of from 2 to 50 ha. was : (a) 6.2004 ha., including forest land ; (b) 5.9325 ha., not including forest land.

The difference observed between the two series of data is explained by the disparity existing between the mutual relations of the size groups of all the peasant holdings in Poland and those of the size groups of the farm holdings the book keeping results of which have been elaborated in the Warsaw section. As is clear from what precedes, the statistics are based on the data collected according to the administrative units ; the data relating to the departments or groups of departments have not however been published, since it is considered that this might lead to false conclusions which might be in consequence dangerous for the agrarian policy. As a beginning, one must be content with a general survey and distinguish only between the size groups. It is true that the Section is well aware of the necessity of establishing in the future a system of statistics including also the elaboration of results on the bases of different natural and economic regions or on that of systems of cultivation.

The first Report of the Section must therefore be considered from the point of view of the difficulties which accompany the beginning of any enterprise. It would thus be premature to draw too pronounced conclusions on the economic position of peasant holdings ; it must not be forgotten that all that is so far available are the data of a single year, and that the results are established in a manner which is still imperfect and inadequate. At the same time the presentation of this report is a work of great interest and value. The first part only has been published in the first instance ; the second part is to include detailed and special data, such as : movement of cash, the part of the gross yield belonging to the production in view of the maintenance of the farmer's family and in view of the market, the total income, housekeeping expenses etc.

According to information contained in the first part of the report, the somewhat unsatisfactory crop results of 1926 are accounted for by unfavourable natural con-

ditions ; these are also reflected in the export of agricultural products and in consequence there has been a rise in prices.

The farmer however has only been able to profit in part by this rise because he sold a large proportion of his products in the autumn, at the moment when prices were low. A very important point is noticeable in regard to agricultural credit where an improvement is remarked in consequence of the lowering of the rate of interest which has followed on the growth of capital in Poland. The bank rate fell steadily from the month of July 1926 to June 1927, although the following statement of the rates as between the two dates may be made :

	Bank of Poland	National Savings Bank	Private banks
July 1926	10	14	18
June 1927	8	9	12

Although this is a remarkable fall, in particular as regards the private banks, a money market situation really corresponding to the needs of the farmers has not yet been reached.

The elaboration of the statistics as well as the methods of accountancy and of closure of accounts follow the principles and the model of the well known reports which are in use in Switzerland. In Table II will be found the distribution of the capital in percentages among the size groups.

TABLE II. — *Percentage Distribution of the Forms of Capital in the Size Groups.*

Size-group by ha. (area in hectares, not including forests)	2-3	3-5	5-10	10-15	15-30	30-50	2-50	3-50
Number of holdings	14	45	131	100	113	30	433	414
Capital represented by the soil	52.79	51.63	56.40	54.63	55.21	57.38	55.14	55.23
Improvements	—	0.03	0.20	0.67	0.65	0.64	0.44	5.45
Capital represented by buildings	27.40	28.05	23.96	23.02	21.85	19.93	23.44	23.30
Farm capital (exclusive of crops)	80.28	79.71	80.56	78.32	77.71	77.95	79.02	78.98
Capital in fruit-trees	1.60	1.78	1.70	1.78	2.10	2.07	1.86	1.86
Capital in forest-trees	1.36	2.00	1.65	1.68	2.75	3.83	2.13	2.16
Unexhausted cultivation values	—	0.01	0.01	0.03	5.01	0.15	0.02	0.02
Capital in plantations	2.96	3.55	3.36	3.49	1.86	6.05	4.01	4.04
Farm capital	83.24	83.59	83.92	81.81	82.57	84 —	83.03	83.02
Live stock	9.95	9.30	8.75	8.97	8.90	8.91	8.94	8.91
Dead stock	5.74	5.36	5.37	6.70	6.69	5.32	6.03	6.04
Capital in circulation	1.07	1.75	1.96	2.52	1.84	1.77	2 —	2.03
Tenants' capital	16.76	16.41	16.08	18.19	17.43	16 —	16.97	16.98
Capital engaged	100 —	100 —	100 —	100 —	100 —	100 —	100 —	100 —

The estimated value of one hectare of land was on the average 1560 zloty : the average price on the very small holdings (2-3 hectares) came out at 2000 zloty : in the group of largest holdings the estimated value per hectare was only 1000 zloty and even less. This is a confirmation of an already well known fact, viz., that the price of land tends to vary inversely with the size of the holding. The figures below, established according to an index = 100 for the size group of from 30 to 50 hectares show the comparative change in respect of capital represented by buildings :

Size-group	Capital represented by buildings per hectare of total area	Capital represented by farm buildings per ha. of the area not including forests (1)
30-50	100	100
15-30	128	128
10-15	169	168
5-10	202	181
3-5	274	264
2-3	431	192

The value of the live stock diminishes according to the increase in the area of the holdings. This tendency is very marked :

Size-group	Area, not including forests, corresponding to the keeping of one horse	Area, not including forests, corresponding to the keeping of one cow
	ha.	ha.
2-3	2.0612	1.7569
3-5	3.8060	2.0889
10-15	6.3882	3.8624
30-50	9.8057	6.2662
Average	6.4080	4.1793

Eliminating the two smallest groups (those from 2 to 5 hectares), it is the 10-15 hectare size-group which proves to be comparatively the most burdened by the capital represented by dead farm stock. Taking the average of all the holdings, 740 *zloty* of capital represented by dead stock corresponds to 1000 *zloty* of capital represented by live stock : this relation is quite different from that which has been established in Switzerland for the period 1901 to 1924, here the ratio was 493 : 1000. It should however be noted that in Poland this relation has been brought about, *inter alia*, by conditions which are perhaps transitory, in particular by the prices according to which the estimates in the inventory have been fixed. It may be presumed that the average established on the basis of the results of several years will be somewhat different. The size group 10-15 hectares is again the one which has relatively the largest floating capital. The liabilities have been small ; more short term than long term debts have been incurred, the explanation being partly in the psychology of the peasants who have had unfortunate experiences during the financial crisis.

Taking everything into account, the value of the capital assets has been low, partly from a lower estimate due to the price position, partly from the effective value of the forms of capital on the peasant holdings.

Usually the peasants construct their buildings themselves and also make their tools, and in consequence the effective value of these forms of capital is not high. On establishing the average of the value of the capital engaged per hectare of all the size groups, and taking the average as equal to 100, the following ratios are obtained :

2-3	3-5	5-10	10-15	15-30	30-50
163	130	110	97	80	66

(1) This value has been obtained by capitalising the rent, and deducting from the total capital represented by buildings the value of the buildings used as dwellings.

The distribution of the production costs is shown in Table III; the data obtained in Switzerland have been added so as to illustrate more fully the results obtained in Poland (I).

TABLE III. *Production Costs in percentages.*

Countries P = Poland, S = Switzerland		P	P	S	P	S	P	S		
Size-group (hectares)		2-3	3-5		5-10		10-15			
Agricultural year	1926	1926		1908-1926	1926	1908-1926	1926	1908-1926		
Number of holdings	14	44	41	656	131	174	2723	100	109	1481
Depreciations.	5.72	6.32	9.38	8.14	6.01	11.76	8.45	7.01	12.40	9.26
Unexhausted cultivation values	—	—	0.07	0.10	—	0.09	0.14	—	0.08	0.10
Current farming costs	18.58	22.53	18.43	19.92	19.41	19.51	20.40	19.07	22.36	22.52
Labour costs.	50.63	45.04	45.12	45.54	42.85	42.66	44.49	41.27	38.79	40.51
Decrease of stocks in store	1.04	1.35	1.77	2.04	1.99	2.03	2.15	2.58	1.87	2.21
Interest on assets	24.03	24.76	25.18	24.07	20.74	23.91	24.30	30.07	24.35	25.28
Current account at bank	—	—	0.05	0.19	—	0.04	0.07	—	0.06	3.12
Total production costs	100	100	100	100	100	100	100	100	100	100

Countries P = Poland, S = Switzerland		P	S	P	S	P	S			
Size-group (hectares)		15-30		P 30-50 S over 30		average 2-50 3-50		General average		
Agricultural year	1926	1908-1926		1926	1908-1921	1926		1908-1926		
Number of holdings	113	122	1430	30	27	416	432	418	473	6716
Depreciations	7.02	13.32	9.29	6.93	13.02	10.18	6.49	6.54	12.03	8.81
Unexhausted cultivation values	—	0.05	0.14	—	0.25	0.14	—	—	0.08	0.18
Current farming costs	20.20	23.42	23.92	17.79	25.61	26.54	19.86	19.95	21.13	21.70
Labour costs	38.04	37.06	38.85	39.23	34.63	36.84	42.29	41.72	40.53	42.43
Decrease of stocks in store	2.40	1.49	2.22	1.80	2.20	2.39	2.03	2.10	1.85	2.15
Interest on assets	32.34	24.62	25.48	34.16	24.27	23.80	20.33	20.69	24.34	24.07
Current account at bank	—	0.04	0.10	—	0.02	0.11	—	—	0.04	0.11
Total production costs	100	100	100	100	100	100	100	100	100	100

The results of the Swiss Office have been chosen, because the methods in use there are those which have been followed in Poland, which facilitates the general comparison of the results. Beyond this, it is desired to indicate the great possibilities of the statistical elaboration of the results of the various countries the natural and economic conditions of which are very different, provided identical accountancy principles are accepted, established in accordance with trials already made in the Offices of different countries. More detailed data should still be added, and also absolute figures, where necessary calculated or reduced in accordance with price index numbers so as to obtain a more complete basis of comparison. Not even these data however would be sufficient to arrive at entirely precise conclusions. In a special study of this kind, there should be taken into consideration all the special factors and the economic conditions of the countries, the characteristics,

(1) In Switzerland 5 size-groups are distinguished: small holdings of from 3 to 5 hectares, small peasant holdings of from 5 to 10 hectares, peasant holdings of from 10 to 15 hectares, large peasant holdings of from 15 to 30 hectares, and large holdings of over 30 hectares.

the types and the varying organisation of the farm holdings. For the present purpose, one has to be content with incomplete indications, as they have in spite of their incompleteness considerable interest. Thus on examining Table III, it appears that the percentage of amortisation of capital, in relation to the production costs, is higher in Switzerland than in Poland, although the average of percentage of the amortisation in relation to the respective forms of capital, *i. e.*, that represented by the buildings and that by the dead stock, was the following:—

Average of the percentage of the amortisation in relation to capital represented by.

		buildings	dead stock
Poland	1926	2.26	11.36
Switzerland	{ 1926	1.82	6.21
	{ 1908-26	1.60	5.64

Amortisation of the capital represented by.

	Buildings	Dead stock	all forms of capital
	in percentage of the production costs		
Poland 1926.	2.06	3.16	6.54
Switzerland { 1920	2.80	2.02	12.03
{ 1908-26	2.61	1.68	8.81

In Poland, the amortisation of the capital represented by buildings and dead stock is high ; the percentage in relation to production costs is only, on the contrary, 6.54. In Switzerland, the figures take a different aspect. Thus, in Poland the value of these forms of capital was low, as buildings etc., were poorly constructed and not durable, and in consequence rates of amortisation were high: prices of live-stock were favourable and in consequence amortisation rates were lower in this respect (in relation to the capital in cows 0.66; in Switzerland 14.44 in 1926, and 9.23 in 1908-26). In Switzerland, the value of the forms of capital was much larger and circumstances were unfavourable to the cattle market in 1926. An interesting feature of the holdings in Poland and in Switzerland is the use of the current account at the bank, in Table III the figures relating to this are not established as regards Poland. A disparity may also be noted which appears in the larger size groups, as to the rate of interest charge on assets. We refer to the interest quotations in Poland which were in July 1926 from 10 to 18, in June 1927 from 8 to 12, while in Switzerland there was an average of 5.339 in 1926. In accordance with these conditions the rate of interest on the capital engaged has been reckoned as being 6 per cent. in Poland which is only very low in view of the bank rates.

At the Farm Accountancy Office in Switzerland, the rate of 4 1/2 per cent. has been current since 1922.

The share of the main branches of farming in the total of the returns is represented by the following percentages :

	Size groups in hectares							
	2-3	3-5	5-10	10-15	15-30	30-50	50-100	100-200
Crop production	29	29	35	38	40	42	38	36
Animal production	59	61	56	53	51	50	55	55
Other types	12	10	9	9	9	9	9	9

The tendency for the importance of animal production to increase regularly in accordance with the decrease in the size of the holdings is quite clear, but on the other hand the crop production is of considerable importance on all the holdings. As regards the relation of the holdings with the market, an idea may be formed from the study of the following data :—

Receipts from the Sale of Crop Products.

	Size groups in hectares						
	2-5	3-5	5-10	10-15	15-30	30-50	2-50
Per ha. in zloty	79.74	68.24	88.85	116.36	110.46	83.88	100.37

These figures relate only to the crop production, and confirm the experience of other countries where detailed studies have revealed the importance of small farm holdings for the market. These figures do not show striking differences according to the size groups. The smallest Polish farmer sells crop products in quantities comparatively little smaller than are sold from the largest peasant holdings.

The distribution of these crop products by groups relatively to the total is shown below in the average as calculated on all the holdings :

Cereals	Straw	Potatoes	Other root crops	Other crop products	Hay	Total
67.70	1.21	8.74	9.84	10.08	3.8	100.37

Hence the cereals occupy the first and leading place among the crop products for the market even on the smallest peasant holdings in Poland ; the respective percentages are : in the group of 2 to 3 hectares, 49.55 ; in that of 3 to 5 ha. 32.60 and in that of 5 to 10 hectares 52.14

The other part of the gross yield and the one which is still more significant is the animal production. It is primarily the cattle which furnish the main part of this returns to the Polish farmer. The cattle account figures in the gross yield as 27.66 per cent. on the average calculated among all the size groups. Milk and dairy products take the first place : they are represented in the total value of the gross yield coming from cattle by an average percentage of 75.

The following table indicates the average figures relating to sale of pigs :

Receipts from sale of pigs, after deduction of expenditure of pig buying farms per hectare in zloty.

Size-groups	Receipts	Expenditure	Net receipts
2 to 3	171.19	29.74	143.75
3 to 5	108.22	35.45	72.77
5 to 10	78.85	19.15	59.70
10 to 15	63.47	15.08	48.39
15 to 30	45.81	10.12	35.69
30 to 50	26.66	2.80	23.86
2 to 50	53.86	16.64	37.22
3 to 50	53.14	16.28	36.86

The average percentage of yield from pig farming relatively to the total of the gross yield has been 15.50; in the size group of 2 to 3 hectares 19.65, in that of 3 to 5 hectares 15.39, in that of 5 to 10 hectares 15.91, and from then onwards it fell steadily but with no considerable fall. Thus in the size group of 30 to 50 hectares the average percentage of this yield was still 14.23. Pig farming is one of the main sources of receipts in all the groups; its importance increasing progressively as the size of the farm holdings diminished. The figures of the expenditure show that the smaller holdings mainly engage in pig fattening, while those in the larger size groups devote themselves more to pig breeding. Horse breeding was only represented by a trifling figure; on the other hand cartage appears as 5 per cent. of the gross yield which is fairly high. Poultry products form a somewhat important part of the gross yield and of the receipts, especially on the smallest holdings.

The figures for poultry and poultry products are as follows:

Size-groups	Percentage of gross yield	Receipts per hectare in zloty
2 to 3	5.11	22.17
3 to 5	6.96	23.42
5 to 10	5.40	17.33
10 to 15	4.83	12.33
15 to 30	4.38	7.65
30 to 50	3.28	3.75
2 to 50	5.18	10.03

This branch of production must also be appreciated from the standpoint of the State economy in view of its importance in the exports of the country: the exports in poultry and eggs were in 1925 in thousands of zlotys 60,079; in 1926, 143,854; and in 1927, 180,293.

Some figures relating to the share of the main branches of agricultural production may be added, calculated as average of all the peasant holdings in Poland and in Switzerland.

Percentage in relation to the gross yield.

Stock	Poland 1926		Switzerland	
	2 to 50 ha.	3 to 50 ha.	1926	1902/26
Stock-farming in Switzerland not including poultry	55.35	55.12	65.89	66.75
Field crops and meadow land	35.63	36.04	8.53	10.08
Tree and fruit growing including vines and forests	3.83	3.69	16.46	14.57

There is thus an essential difference in the general tendencies of the agricultural production in the two countries.

The principal results of the peasant holdings in Poland and in Switzerland are shown in Table IV. These figures offer certain comparisons according to which it may be concluded that the peasant holdings in Poland were in a more favourable position although not a fully satisfactory one: in any case, the figures for Switzerland, on the whole, remain in the year 1926-27 below the level of those of Poland. Proof of this is found on close examination of the net yield figures and those of the return on worth of the farm. Evidently the difference of the conditions and the actual present circumstances, both economic and natural, manifests itself in this way. Undoubtedly the Polish data which refer only to a single year can only

have a relative value. Moreover as has been said a special and thorough enquiry must be made so as to show precisely all the special characteristics of the peasant holdings in the two countries.

Size-groups in hectares	Gross yield per ha.		Farming costs per hectare		Net yield per ha.		Net yield in percentage of assets		Divergence of net yield in percentage of gross yield		Return on net worth in percentage of net worth	
	The largest group = 100											
	P	S	P	S *	P	S	P	S	P	S	P	S
2-3	344	—	405	—	196	—	3.88	—	9.11	—	3.73	—
3-5	—	187	—	135	—	45	—	0.63	—	—	—	1.84
5-10	257	164	313	146	121	94	2.91	2.61	14.54	—	2.74	1.55
10-15	—	129	—	106	—	61	—	1	—	—	—	2.22
15-30	194	139	206	113	165	119	4.73	3.84	6.80	—	4.61	3.62
30-50 (8 over 30)	—	120	—	108	—	91	—	1.53	—	—	—	2.15
2-50	183	129	178	111	195	124	6.25	4.35	+ 1.26	—	6.41	4.42
5-50	—	112	—	103	—	114	—	2.11	—	—	—	0.47
	144	116	132	105	171	120	6.80	4.57	+ 4.11	—	6.96	4.71
	—	100	—	100	—	100	—	2.25	—	—	—	+ 0.11
	100	100	100	100	100	100	5.12	5.12	5.20	—	5.12	6.99
	—	—	—	—	—	—	5.79	—	1.80	—	5.85	—
	—	—	—	—	—	—	—	1.70	—	14.45	—	1.18
3-50	—	—	—	—	—	—	5.81	4.31	0.33 + 1.20	—	5.86	4.39

Size-groups in hectares	Proceeds of work of farmer and of members of his family per day of work	Income from the farm holding				Man-work days per hectare of land under cultivation. Work days of women and children reduced				Distribution of days of work in percentage				Distribution of the return on net work (R) and of the remuneration of the work of the family (T) in the agricultural income in percentage					
		per man-day of work of family																	
		per hectare																	
The largest group = 1000																			
P		S		P		S		P		S		P		S		R		T	
2-3	94	—	—	469	—	39	—	230.5	—	81.65	—	18.35	—	26	74				
3-5	—	123	—	—	688	—	69	—	135	—	88.15	—	11.85	—	—	—			
5-10	81	46	298	326	42	52	166.7	141	67.31	85.81	32.69	14.19	24	76					
10-15	—	128	—	—	371	—	71	—	100	—	70	—	30	—	—	—			
15-30	105	60	249	261	55	62	102.1	110	71.69	73.64	23.81	26.36	41	59					
30-50 (5 over 30)	—	98	—	—	273	—	71	—	84	—	61.91	—	38.09	—	—	—			
2-50	147	68	236	210	70	72	82	88	66.46	64.77	33.54	35.23	52	48					
5-50	—	78	—	—	185	—	90	—	69	—	39.14	—	60.86	—	—	—			
	176	78	176	145	92	90	55.8	74	56.81	45.95	43.19	54.05	62	38					
	—	100	—	—	100	—	100	—	52	—	25	—	75	—	—	—			
	100	100	100	100	100	100	43.5	55	39.08	34.54	60.92	65.40	65	35					
	—	—	—	—	—	—	71.5	—	61.96	—	38.04	—	—	—	—	—			
	—	—	—	—	—	—	—	77	—	51.95	—	48.05	53	47					
	—	—	—	—	—	—	—	84	61.56	59.52	38.44	40.48	53	47					

P = Poland; S = Switzerland. — Switzerland: the first figure relates to 1926-27: the second figure is the average 1909-26.

The object of this article has merely been to indicate certain results, the most significant, of the first report of the Polish Office and at the same time to draw attention to the importance of similar enquiries not only for the agricultural policy of each country but also for international studies and in consequence for the interest of world agriculture.

On comparing the tables it will be seen that in spite of differences there were also many tendencies in common between the peasant holdings of the two countries. The principal one of such tendencies is the importance of the work factor and consequently the proceeds of the work of the farmer and of his family. It is in fact that element which forms a large part of the agricultural income, particularly on the smallest holdings. If the interest on the net worth reckoned at the usual rate is deducted from this income, there is frequently only left a lower wage not even that which is paid on farms to farm hands; often, as was the case in Switzerland in 1926-27 the return on net worth is expressed by a liability, thereby forcing the farmer to utilise a part of his private capital unless he decides further to reduce his own requirements and to meet them from his already lowered remuneration! The farmer is in the right when he demands an adequate compensation for his work which is of so great an importance to society, and he is also in the right in demanding a fair profit on his business, which it may be added never earns profits in any way exaggerated.

In the crisis through which agriculture is passing, a solution must be found, by instructing the small farmer in the carrying on of his profession in accordance with economic and sound commercial principles, by framing a reasonable and effective agricultural policy, and what will always be the first essential, by dealing with agricultural questions of an economic kind from the world point of view. There are, undoubtedly, divergences in agricultural interests between different countries, but there are many more common interests.

The progress of agriculture in each country is closely linked with the progress of the whole world agriculture; and this progress can only be made a reality by means of the whole-hearted collaboration of all countries. It follows that special method of economic research should be studied and brought into use, and one of these modern methods which can provide service of the highest utility and indeed indispensable is farm accountancy. Careful attention should therefore be given to the possibilities of collaboration between the Accountancy Offices already in existence, while respecting their individual character and special interests; and new offices should be formed wherever at present there is none in existence. At a point of time when this question is entering upon an important stage, the first report of the new Polish Office has a peculiar significance; and it is for this reason that special attention has here been drawn to its appearance.

O. S.

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AGRICULTURAL LEGISLATION

New Tendencies in the law on Compensation awarded to Tenants in respect of improvements.

One of the questions which at the present moment most interest the agricultural classes is that of the compensation granted to tenants in respect of improvements effected by them on their holdings. The recognition of this obligation on the part of the landlord towards the tenant presents two interesting characteristics. First it constitutes a departure from the traditional rules logically arising out of the legal institution known as the leasehold; secondly this departure has been effected in order to meet the special needs of the industry of agriculture.

These two statements require elucidation. The leasehold contract consists in transferring the right of enjoyment of a determined object for a certain fixed period in return for a certain sum. During the period of the lease neither the lessor nor the lessee may, as a general rule, make any substantial modification in the nature of the property leased; the parties, it is argued, contracted with respect to the property

in the condition it was in at the time ; hence the object of the contract must continue to remain in the state it was in at the moment when the contract was concluded. To this rule there is an important qualification, consisting in the second of the two principles enunciated above. It is essential for the needs of agriculture, whose repercussions on the economic life of each country are so numerous and considerable, that farm production should show a steady advance both as regards quantity and quality. But since this advance necessarily presupposes an improvement in farm crops and installations it is essential that these improvements shall be made even when the land is let out on lease. When the matter is considered from this standpoint, it is obvious that the tenant cannot be persuaded to effect improvements in his holding unless he is assured of compensation at the expiry of the lease. Such are the characteristics of the problem which demonstrate the need, in view of the peculiar exigences of agriculture, of an innovation in the usual and traditional system of leaseholds.

The same results might be also attained, if not entirely at least in part, by another method. According to this plan the lessee would be guaranteed the enjoyment of his farm and of its increased return for a sufficient period of time to indemnify and compensate him for the cost of his improvements. This solution is however only practicable by fixing a compulsory minimum period for leases of rural land. When it is expressly laid down that a leasehold contract cannot be concluded for a period of time falling below a certain minimum and all tenancies as a result become long term leases, the tenant can have no objection to making improvements on his land seeing that he has before him a lengthy period of enjoyment during which he can easily pay off any expenses he has incurred. This is substantially what has been done in Belgium by a law passed on 7 March 1929 amending the articles in the Civil Code dealing with the leasing of rural property. Art. 6, par. 2 of the law lays down that in cases of initial contracts of occupation the length of the lease may not be less than 9 years notwithstanding any clause or customary rule to the contrary. The adoption of a system of this kind, whilst on the one hand it restricts considerably the will of the contracting parties, at the same time fails to offer a complete solution of the question because enjoyment for a period of nine years is not sufficient, especially when the improvements have been very costly, to cover all the capital spent. In fact the law we have just cited allows, as will be seen below, within certain limits a right on the part of the lessee to be compensated for improvements.

The general tendency, as will be demonstrated later, is to grant the tenant a right within certain limits and on the observance of certain determined conditions to be compensated for any improvements he may have made. There is hardly need to add that for the purposes of this legislative rule, the improvements visualized are only those made in the holdings as a result of human effort, involving the expense by the tenant of labour and capital ; improvements brought about by natural phenomena such for example as those made by floods or public works are excluded. The majority of legal codes at present in force, including those of France and Italy and all the others inspired from them, follow the traditional principles mentioned above and do not recognize any right on the part of the lessee who has made improvements to be compensated for them. Judicial doctrine which in applying the law follows as far as possible the economic trends in order to meet the demands of a general order has however sought without making any unjustified departures from the general rules in force, to find legal considerations which would entitle tenants to be granted compensation for improvements. This has been done by an application of the express or implied contract of *mandatum*, and it has been decided to grant compensation when the landlord has expressly or

tacitly permitted the tenant to effect the improvement. Other countries again, for example, Italy, starting from the rules as regards unearned benefits have admitted claims for compensation when as a result of improvements the value of the land has increased so much that the landlord has been able, immediately on the expiry of the lease, to conclude a fresh leasehold contract at a sensibly higher rent. This judicial tendency taken in conjunction with the numerous and authoritative pronouncements of the agricultural organizations in the various countries as well as the example of the English legal system which has for a long time admitted this principle, has induced the Governments and legislature of the various countries to face this interesting and actual problem with energy and with a determination to arrive at a rapid solution.

The most recent manifestations of this movement are first the above mentioned law of Belgium of 7 March 1929 ; secondly the Project for a Code of Obligations and Contracts elaborated by the French commission appointed by the Legislative Union of Friendly and Allied Nations which was approved in Paris in October 1927 ; thirdly a bill now being discussed by the French Chamber promoted by certain of its members ; fourthly a proposal of the National Fascist Confederation of Italian Agriculturists and fourthly the Civil Code of Mexico of 1928.

There is one point on which all these measures or proposed measures agree, namely the recognition of a right on the part of the tenant to be compensated for improvements made by him with the consent of the landlord. Some of these measures are more severe inasmuch as they require that such consent be given in writing ; others again are less strict and allow compensation when the improvements have been made with the knowledge of the landlord and without his expressing opposition. This is, however, obviously not the central point of the problem, for this result had already been arrived at by legal doctrine in many countries simply by an interpretation of the rules in force. The central point of the problem consists in deciding whether the right of a tenant to compensation for improvement is to be recognized independently of the express or tacit consent of the landlord, and if so within what limits and under what conditions.

When the problem is considered from this standpoint a fresh distinction must be drawn between agricultural improvements in the narrower sense and land improvements. This distinction is a necessary one for while the right of the tenant to indemnity is more generally recognized in the case of agricultural improvements, in the case of land improvements on the other hand, as a result of the more complex character of the problem and the greater financial burdens involved, the consensus of opinion is less complete and this right is recognized only in some of the measures with which we propose to deal.

The right to compensation for agricultural improvements and for certain land improvements of a limited character is allowed in the Belgian law and in the Bill now before the French Parliament. The Belgian law recognizes, independently of any consent on the part of the landlord, a right on the part of the tenant to be indemnified on the expiry of the lease, for any improvements the tenant may have made as regards roads, crops, wells and various buildings and other landed works on the farm. From the Ministerial and Parliamentary reports and debates it is evident that this rule considers only improvements made in existing works and not the construction of fresh works or buildings in the case of which, as stated above, the consent of the landlord is necessary for any improvements which are to be compensated. This right to compensation possessed by the tenant is in Belgium governed by several rules intended to ensure its effective application and to determine its exact limits. It has been therefore laid down in order to preserve the com-

pulsory and inderogable nature of this right that any custom whereby it would be extinguished or limited is to be considered null and void ; the same holds good of any agreement made in contradiction, unless it was concluded after a notice to quit had been served on the tenant and is evidenced by a formal deed. As regards the amount of the compensation, the law establishes that it is to be equal to the value of the improvements at the expiry of the lease, considered with reference to the future destination of the land ; this sum may not however exceed the amount actually spent by the tenant. The law after repeating the principle that the tenant is obliged in his turn to pay for any damage to the property, makes provisions for setting off any sum due from the tenant on this count against that due to him for improvements. The principle contained in the above-mentioned Bill before the French Chamber presents few differences from the above. This Bill also starts by distinguishing between land improvements and crop improvements. Land improvements such, for example, as the construction or enlargement of buildings, the establishment of wheat silos, permanent meadows, roads, bridges, plantations, drainage works, irrigation canals and, in general, all works of permanent character which can only be undertaken with the express approval of the landlord. Purely agricultural improvements which are not obligatory as a result of special agreements or of custom, entitle the tenant to be indemnified on condition that an exact description of the farm was made within 12 months of the date of the tenant's entry into possession. The nature of those improvements giving rise to a right to compensation shall be established by the local Chamber of Agriculture, and the amount of the compensation shall be fixed on the basis of the plus value conferred on the farm by the tenant, within the limits of the expense actually incurred and of any profits which may have been derived. The bill considers the possibility of the landlord finding difficulty in realizing the sum payable to the tenant on the expiry of the lease in respect of improvements and lays down that payment may be spread over a certain period. The Bill adds that the indemnity for agricultural improvements is to be paid by the incoming tenant and in default by the landlord. Rules are also laid down for determining the amount of the indemnity in order to safeguard the conflicting interests of the parties. The tenant is required within a month of the expiry of the lease to notify the landlord in the case of land improvements and the

- lessor or the new tenant in the case of agricultural improvements, by registered letter enclosing returnable form of receipt or else by other informal document under pain of forfeiture the grounds on which he claims compensation. In default of agreement between the parties within one month of this notification, and in default of private agreement arrived at between them for the settlement of the dispute, the indemnity shall be fixed on the basis of an expert examination ordered by the President of the Court. According to the Bill the foregoing rules are to have obligatory effect in such a way that any contractual clause limiting the rights recognized as belonging to the tenant must be considered as without effect. The Civil Code of Mexico of 1928 recognizes by art. 2423 a right of compensation on the part of the tenant provided however that one of the two following conditions are fulfilled. First that the lessor gives his consent in the contract or later ; secondly that the improvements were of a useful character and the contract was terminated by the fault of the lessor ; that the contract was for an indefinite period and that the lessor after having authorized the improvements brought the tenancy to an end before the expiry of the period of time necessary for the tenant to be able to reap the benefits and re-imburse himself of the expenses incurred for the improvements. Thus the new rules contained in the Mexican code recognize as may be clearly seen

from the above the right to compensation on the part of the tenant only in those cases involving the consent or fault of the lessor.

More complete, organic and undoubtedly more advanced than all the other projects and legal systems now in force are the draft rules on the improvements in the leasing of rural property compiled by the Juridical Studies Commission set up in Italy by the National Fascist Confederation of Agriculturists. The conception of improvements on which this scheme is based is a very broad one. It includes every stable form of improvement in relation to the developments of which agriculture is susceptible with special reference to local conditions. For the practical realization of this conception the scheme proposes that each Provincial Economic Council shall draw up a list by province or zone of province of the improvements effected by the tenant ranging from improvements in herbaceous crops to electric installations or conducting plants for the use of agriculture. These lists must be periodically revised at intervals varying with the particular category of improvement. A fundamental characteristic of the scheme is the obligatory nature of these rules; thus the first article lays down that the improvements executed by the tenant in conformity with the law give a right to compensation even in spite of the parties contracting to the contrary. Another fundamental point of the proposal is the amount of the indemnity. In this connection the traditional formula by which the amount was calculated at the lesser of the two sums represented by the value of the improvement or its cost, has been abandoned; this modification is the consequence of the principle laid down clearly in the report that agriculture will not be properly assisted by the legislator unless the compensation is fixed at the greater value at the expiry of the lease. The Bill moving from this conception lays down that the compensation due to the tenant shall be established at the conclusion of the lease on the greatest net profit to the land resulting from the improvement effected whilst taking account of the duration and stability of this increase of profit. Having thus laid down the general principle of a right of compensation and having fixed its general content, the authors of the scheme determined not to neglect the legitimate interests of the landlord, whether they arise from the obligation incumbent upon him of paying compensation or from the necessity of eliminating or controlling possible abuses on the part of the tenant. As regards the first point it cannot be denied that the obligation of paying compensation on the expiry of the lease for improvements made by the tenant may place the landlord in serious financial difficulties. The project moving from these considerations and with the object of reconciling the interests of the lessor with those of the lessee, and especially with the general interests of agriculture lays down two rules. First, the sum corresponding to the capitalization of the greatest net profit derived from the improvement shall not be paid over as compensation to the tenant in entirety, but only to the extent of 75 %, the remaining fourth being considered as a compensation due to the property. Secondly the landlord has the right to effect the payment of the compensation due to the tenant in regular instalments, amounting to a fraction of the whole sum due as indemnity plus the interests due. The total amount must be equal to the plus value of the property as the result of these improvements. It was however necessary, as above stated, to qualify this right by rules intended to prevent abuses on the part of tenants. Several rules are laid down with this object; thus the improvements if they are to be compensated, must be effected within the first half of the period of the lease or, in contracts for tenancies which exceed nine years, before the last five year period has begun; this rule makes it possible to ascertain the results of the improvement before the expiry of

the lease and to make sure that the works carried out were intended to increase the value of the farm and do not constitute an attempt made at the last moment to saddle the landlord with an obligation to make compensation. The scheme also requires the tenant before starting on the improvement works to communicate a detailed scheme to the lessor in order to give the latter an opportunity should he wish of forbidding them for reasons of an objective character or else because he wishes to carry them out himself. The project which deals in particular with contracts for direct cultivation, grants tenants holding land under such contracts all the rights recognized as belonging to other tenants. Certain modifications are however made in the general rules. Thus, in the first place, the lessor may not substitute himself for the tenant in making improvements. This measure follows as an obvious corollary to the very nature of these improvements inasmuch as the principal factor in them is the labour of the tenant and his family. Again the compensation for the improvement may on this hypothesis be satisfied in whole or in part by assigning to the tenant under certain determined conditions a portion of the land leased. Having laid down some rules for protecting the interests of the lessor, the scheme goes on to consider the situation of the tenant with the object of establishing in his favour proper guarantees which will ensure his realization of the indemnity due to him. The project starts from the necessity of not recognizing the tenant's right to indemnity as a mere credit based on a written agreement. The right is, on the contrary, created in the project as a credit right with real effect provided that certain conditions of publicity taking the form of transcriptions have been observed. When these are fulfilled the tenant's right becomes available against any third party acquiring the land leased ; when these formalities have not been fulfilled the tenant has always the right to register a mortgage on the land on which improvements have been made, against the owner who is obliged personally. Nor does the effect attributed by the project to the right of the tenant stop here ; in the event of his credit not being satisfied he has a real action in respect of the land and if he has registered his right can claim to have earmarked out of the purchase price of the land an amount corresponding to the value of the improvements. In respect of the portion so earmarked his credit has priority over any other preferred claim, with the exception only of preferred claims belonging to the State.

Conclusions of no small interest might be drawn from the data furnished above. There is, first of all, an undeniable tendency evident almost everywhere, expressed in laws, bills, legal decisions, and judicial doctrine, towards recognizing a right on the part of the tenant to be indemnified for improvements made on his farm ; this tendency which is in marked contrast with the traditional principles in the matter of leaseholds, is based on the particular exigences of agricultural development. A second conclusion is the following : when the tenant's right to be indemnified for the improvements effected on his farm has been recognized as a general principle, the rights of the property must also be safeguarded in order to prevent the tenant from abusing the right accorded him by effecting too many improvements and thus placing the landlord in a situation of embarrassment when the moment arrives, at the expiry of the lease, for making compensation. The third conclusion again may be expressed in the following terms : The methods invoked for reconciling this contrast of interests may be placed under two categories and the laws and bills mentioned above may be divided into those which have adopted the first or second of the two methods we are about to detail. The means falling under the first category are certainly more simple but naturally restrict inevitably the action of the tenant as regards affecting improvement works ; these means consist in limiting the right to indemnity and admitting it only when the landlord has given his express or im-

plied consent ; or else they consist in confining the right to improvement to a certain number of categories of improvements of a minor economic importance, in order in this way to reduce to the utmost the burden on the lessor. The methods falling into the second of the two categories mentioned above are more complex, but are calculated to avoid any negative effect on the action of tenants in effecting improvements. These methods may be expressed in a synthetic but expressive formula namely: to fix the amount of the compensation and the instalments payable within the limits of the actual increase in the production of the farm resulting from the improvements effected in such a way that the owner can meet them without contracting fresh charges.

G. CAR.

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SOURCES. *Belgium.* Law revising the articles of the Civil Code dealing with leaseholds of rural landed property. 7 March 1929 (*Moniteur Belge*, No. 79, 20 March 1929). Parliamentary Documents (Chamber of Representatives). Report and text of Bill No. 108, session of 24 July 1925. Report No. 429 presented in the name of the central sections by M. Van Dievoet and M. Mathieu. Other supplementary reports: No. 162, session of 29 March 1927 and No. 225, of 24 March 1928. Senate: Report of the Agricultural Commission, No. 168, session of 7 July 1927; further reports of the same Commission, No. 10, session of 29 November 1927; No. 15, of 30 November 1927; No. 17, of 6 December 1927; No. 92, 26 February 1929.

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Mexico. Civil Code for the district and general territories, Art. 2423 (*Diario Oficial*, No. 50 (31 August 1928).

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Italy. Draft of rules for improvement in leases of rural lands compiled by the Legal Studies Commission of the National Fascist Confederation of Agriculturists (Rome, 1928).

Summary of the laws and regulations.

CHILE. — Ley número 4,522. — Establece normas encaminadas a controlar la venta de árboles, 8 enero 1929.

[Owners of nurseries, plant depôts, agencies, or persons engaged in the sale of fruit trees or of table or wine grape stocks are required to forward every year to the Department of Agriculture a statement of the quantity of fruit trees or vines stocked by them for sale. The data supplied by them will be officially checked by the Department of Agriculture. They are also required to declare the origin and provenance of slips and grafting stocks and of any other plant parts used by them for the propagation of each variety. Fruit tree and vine dealers who have no nurseries of their own must notify the provenance of all plants sold by them and must therefore see that the nurserymen from whom they buy specify on the invoice the name of the particular varieties and a description of the slips and grafting stocks employed.

Persons selling trees or plants not answering to the variety or description indicated will be punished].

ESPAGNE. — Real Orden n. 504 dictando las reglas que se indican relativas a la importación de trigos. 20 febrero 1929. *Gaceta de Madrid*, n. 53 (22 febrero 1929).

[The Royal Decree of 13 September 1928, authorized the General Food Supplies Department to propose any modifications in the rules governing the wheat market that might be dictated by unfavourable conditions such as bad crops, diminished yield and the consequent inevitable importation of wheat from abroad and the necessity, on the other hand, of obtaining the best possible terms for the national wheat without altering the price of bread. A Decree-law, issued on 23 September 1928 in virtue of this provision, makes several changes in the wheat marketing regulations.

The Decree, in view of the necessity of reducing and simplifying the work of the General Department of Commerce and Food Supply in the matter of payment of customs tariffs and with the object of limiting imports to the amount strictly required for consumption has been amended by the present Order. Importing firms must have special authorization to import wheat for food purposes while the total quantity that may be imported is to be distributed between the importing firms. With this object flour manufacturers are required to notify within a certain prescribed period the quantity and quality of corn they desire to import, while the General Department of Trade and Food Supply is required to consider and decide upon these applications in the sense most favourable to individual interests].

FRANCE. — Décret fixant pour l'année 1929 le taux d'intérêt des prêts individuels et collectifs à long terme consentis par application de la loi du 5 août 1920. 15 février 1929; *Journal Officiel*, No. 44 (21 février 1929).

This Decree prolongs until 31 December 1929 the interest rate for individual long term loans granted in application of the Law of 5 August 1920 on the subject of co-operative mutual credit and agricultural co-operate for the object of facilitating the transformation or reconstitution of small rural farms or agricultural workers' dwelling houses. This interest rate may be lowered to 2.75 % if the beneficiary is a ward of the nation and to 2.85 % if he has received a diploma for studies carried out at certain State agricultural schools. A further reduction may also be granted by the lending Society in accordance with the number of legitimate children living and under sixteen years of age possessed by the borrower when each amortization payment falls due. The rate of interest on loans granted to agricultural co-operative Societies, to agricultural syndical associations and to societies with collective agricultural interest as well as long term loans granted to communes and groups of communes is maintained until 31 December 1929 at 3 %].

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INTERNATIONAL REVIEW OF AGRICULTURE

PART II

MONTHLY BULLETIN

OF

AGRICULTURAL ECONOMICS AND SOCIOLOGY

ECONOMIC FLUCTUATIONS IN AGRICULTURE

The Index-number Method and the Study of Economic Fluctuations in Soviet Russia.

PART II

THE PEASANT INDEX-NUMBERS.

A. *Characteristics.*

The systematic development of the whole of Russian economic life in accordance with a pre-arranged plan, as explained in § 5, is beset with considerable difficulties, taking the form in particular of those tendencies that defy precise statement but which govern the development of the rural economy of the U. S. S. R., split up as it is into nearly 25 million small farm holdings. In this situation, it is essential that the plan for the development of the rural economy should be established on the basis of a method of observation recording with an extreme sensitiveness, so to speak, the existing conditions in agriculture. The general index numbers of the wholesale and retail prices which have just been studied are based on the data obtained on the markets of the large towns and on those of the district centres. The peasants however usually buy and sell on the basis of prices which are current on the smaller markets, such as the local village markets and the bazaars of the chief towns of the districts. For the peasant economy it is pre-eminently the price of the commodity "straight from the farm" (*franco-ferme*) which is of actual importance, i. e., the price at which the peasant actually sells his products and the price which he pays when he purchases commodities produced outside his own farm holding. All other price categories must be reduced or increased proportionally to the total of the expenditure rendered necessary by the middleman trade for the purchase and sale of commodities at these farm prices.

If steps had been taken to determine the purchasing power of money in the country on the basis of the price index-numbers of the Institute for the Study of Economic Fluctuations and of the "Gosplan", a table would have been obtained which would correspond to reality only up to a certain point, seeing that the prices which refer to the sales of rural products would be exaggerated, while those relating to the purchase of manufactured products would be reduced as compared with reality. The peasant in fact sells his products at prices lower than the prices registered in these index-numbers, and on the other hand he buys the commodities he requires at higher prices as compared with the prices on which these index-numbers are based. Such facts tend to make the purchasing power of the money circulating in the peasant farm enterprise appear higher than it really is.

Similarly the questions relating to the respective and reciprocal purchasing power of agricultural and industrial products are merely resolved in a general way in these series of general price index-numbers, which indicate for the Union the mean divergence existing between prices of agricultural products and prices of manufactured products *only* so far as relates to the regional and to the town prices, while this divergence, or spread, in respect of the conditions occurring in the country, is not taken into consideration. If, for example, the price of a given agricultural product is somewhat low in the producing region and this same price is somewhat high in the consuming region, it may be that, even when there is an important spread between the prices of manufactured products and the prices of agricultural products (the *scissors*), the average price of the agricultural product in question and its relation to the industrial price will appear entirely normal. The index-numbers of the prices in the towns cannot give an exact idea of this phenomenon and for the following reasons: first, because the changes occurring in the price-indices in the town and in the country do not occur simultaneously and with an equal rapidity, and sometimes even because these changes follow different directions; secondly in the town price-indices, regard is had rather to the prices of the transformed agricultural products than to the prices of products as obtained from the farm; for example, the prices relate to flour and not to cereals. This is a matter of considerable importance, since the modifications of the index-numbers of the raw materials and those of the transformed agricultural products also follow different courses; and finally because the series of prices in the town which are available, do not cover a number of commodities which form an important part of production expenses in rural economy, such as ploughs, sickles, etc.

On the other hand there is in these facts a reason which is not only economic but also social for the preparation of peasant index-numbers, seeing that the general index-numbers express the purchasing power of a unit of money for all classes of the population without distinction. The various social groups however differ and often essentially so, as regards the composition of the items of their family budget and in consequence the index-numbers which refer to these items must necessarily be distinct for each individual class of this population. This truth has been realised and at the present time the special index-numbers expressing the cost of living for industrial workers and the change in the purchasing power of money for this class have been already worked out in the greater number of countries of the world. This principle of the differentiation of the social milieu in this respect having once been admitted, the problem of the establishment of similar index-numbers for the rural classes too alike for their personal expenditure and in respect of products purchased for the farm, positively demands solution. Especially in Russia where the peasants are the predominating mass of the population of the country.

Thus the principal object of the peasant index-numbers is to make it possible to determine on the basis of farm (*franco-ferme*) prices the modifications which the market fluctuations may bring about in the organisation of the peasant economy and in its economic position.

B. Methods of Preparation.

At the time when the preparation of the peasant index-numbers was begun, on 1 October 1925, the Institute for the Study of Economic Fluctuations took all steps to ensure receiving the necessary material regularly every month. With this object the Institute addressed itself to the local organs of the People's Com-

missariat for Finance and utilised the network of agricultural co-operative societies. Information is obtained from 160 centres of rural observation, situated in six different economic regions of the U. S. S. R.:

1. Wheat region : Northern Caucasus, 37 centres, and Ukraine (Southern steppes), 17 rural centres.
2. Sugar beet region : Kursk Government, 26 rural centres, and Ukraine (right bank of the Dnieper), 26 rural centres.
3. Dairy region : Ural, 23 rural centres.
4. Wheat and dairy region : Western Siberia, 15 rural centres.
5. Flax region : Governments of Smolensk and Tver, 11 rural centres.
6. Potato region : Governments of Kastroma and of Jaroslav, 5 rural centres.

The peasant index-numbers are prepared by each of the six regions of the Union separately. Apart from these index-numbers, the Central Statistical Department of the Ukraine, at Kharkov, establishes the peasant index-numbers for the territory of the Ukraine taken separately. An index of peasant prices is not however drawn up for the whole Union, in view of the immense extent of its territory and of the great diversity of the natural and economic conditions of its regions.

As regards the selection of marketable commodities for consideration, the Institute for the Study of Economic Fluctuations registers the prices of all the groups of agricultural products grown or produced in a given region, the importance of which is more or less considerable in the aggregate production of that region ; it includes in the group of marketable commodities all manufactured products, as well as the agricultural products which are not produced in the region under review or of which the production is insignificant. On this occasion, the Institute has preferred to limit the selection of marketable commodities to a small number, provided only that this selection is sufficiently representative as regards the demand for these commodities on the part of the inhabitants of the countryside.

Peasant index-numbers are calculated according to the geometric method of averaging weighted by the changes relating to prices established on the basis of the "Chain Method". For each period and for each commodity, there is first determined all the changes of price for the period or the commodity occurring in the separate centres of registration during the period which has elapsed between the previous registration and that in question. From these modifications of the prices a non-weighted geometric mean is obtained, the link in the chain of the regional price index of the given commodity corresponding to the given interval between the registrations. By multiplying consecutively all the links from 1913 to the present time, or which comes to the same thing, by multiplying the link of the chain referring to the last registration interval by the link corresponding to the previous period, which is the base period, the regional prices index of commodities is calculated for each given period. The regional index-numbers of commodity groups are established on the basis of the weighting of regional index-numbers of the prices of the separate commodities according to their respective importance on the annual balance sheet of the turnover on an average farm holding in the region under consideration.

The base of the index-numbers is formed from the average pre-war annual prices (1913) and the weighting is based on the data relating to turnover on the peasant holding during the last preceding budgetary year, from April to April,

these data being supplied to the Moscow Institute by the statistical bodies separately for each separate economic region. When no data are available in respect of a given commodity in a certain agricultural region, recourse is had to the method of interpolation and there is included in the scheme drawn out either the price of the commodity in a neighbouring centre, or the price modifications of a similar commodity in the centre under consideration, or again, jointly, the average modifications of the price of the article in question in all the other centres of the region under review.

The results of the study of the turnover shown on the peasant budget are usually published, after one or two years' interval, and it is for that reason that the weighting, calculated on the basis of these researches, is also subject to delay, corresponding to that lapse of time with respect to the prices registered for the preparation of the index-numbers. This fact may up to a certain point interfere with the precision of the index-numbers calculated, especially during these last years of consolidation of the rural economy, which are characterised by a constant increase in the peasant budget, where there are noticeable also unexpected sudden rises in the turnover of certain individual marketable commodities included in the budget.

The fact that the prices are registered every month while the weighting is established for the whole year has an influence on the precision of the peasant index-numbers; the movement of the commodities on the peasant holding is modified perceptibly from one month to another. The inadequacy of the statistical data on the point obliges the Moscow Institute to accept this state of things provisionally; but it reserves the right of organising in the future in centres which supply information on prices a co-ordinated service of correspondents for the registration of the development of the different factors in the peasant budget. The correspondents will be expected to forward data on this point in such a way as to coincide in time with the price information. From this information, the weights will be worked out on the basis of material relating to the very season for which they have to be established. By this means the Moscow Institute will be enabled to solve the problem of the elimination of the seasonal fluctuations in the peasant index-numbers, as is done, *e. g.*, in the U. S. Department of Agriculture, when calculating the index-numbers of the purchasing power of the various agricultural products.

The Institute for the Study of Economic Fluctuations in the first instance calculates the price indices of the agricultural products and manufactured products for each region taken separately. Thus for example, for the wheat region the Institute calculates the price index-numbers of rye, wheat, oats, barley, millet, maize, potatoes, hay, sunflower seed, beef and eggs; for the sugar beet region, the price index numbers of each of these products are calculated, and the index-number for sugar beet is added while those referring to hay, sunflower seed, beef, etc. are omitted. For the manufactured products the Institute calculates the price index-numbers of sugar, tobacco, soap, printed cotton goods, boots and shoes, iron, glass, as well as those of agricultural products transformed on the spot, such as flour (wheat and rye), the three qualities of butter and fat (salt butter, Russian butter, melted butter and vegetable oil) and bran. The regional price index-numbers for which 1913 is taken as base-year are calculated on the chain method, and consequently the prices relating to the period considered are not compared with those of the base year; this comparison is made only once, at the time of the determination of the first link of the chain.

The different products are placed in 21 groups, according to their economic importance for the peasant farm holding of the type under consideration and there are also formed the same number of groups of price index-numbers of these groups of commodities. The 21 price index-numbers refer to the following groups:

1. Industrial products for personal use ;
2. Industrial products for upkeep of farm ;
3. All industrial products purchased ;
4. Agricultural products purchased for personal use ;
5. Agricultural products purchased for upkeep of farm ;
6. All agricultural products purchased ;
7. All products purchased for personal use ;
8. All products purchased for upkeep of farm ;
9. All products purchased, this price index-number being the index of the purchasing power of a monetary unit for the peasants ;
10. Products consumed in kind for personal use ;
11. Products consumed in kind for upkeep of farm ;
12. All products consumed in kind ;
13. All agricultural products employed for personal use ;
14. All agricultural products employed for upkeep of farm ;
15. All agricultural products consumed ;
16. All forage ;
17. All products consumed for personal use ;
18. All products consumed for upkeep of farm ;
19. All products consumed ;
20. All agricultural saleable commodities produced ;
21. All agricultural products placed upon the market.

The price index-numbers of groups 1 to 9 refer to products purchased by the peasants, those of groups 10 to 12 to products supplied by the farm itself and those of groups 13 to 21 to the aggregate of the products serving in each separate case the purpose indicated.

The group index-numbers of the products, as above, as well as the index-numbers of certain individual products cannot all present the same interest for all the regions. Thus for example, the Institute for the Study of Economic Fluctuations does not work out for the wheat producing region the price index-numbers of the fourth, fifth and sixth groups, referring to agricultural products purchased by the farmer ; on the other hand, it includes these index-numbers when the regions of sugar beet and potato cultivation are under consideration, since in those regions the sums set aside for the purchase of agricultural products occupy an important place in the farm budget.

The calculation of the regional index-numbers of a group of commodities follows that of the price index-numbers of individual products and is made on the basis of the regional weights. In order to be in a position to estimate the results obtained from a study of the peasant index-numbers by reference to facts observed in real life, the Moscow Institute collects through the statistical organisations the data relating to the annual movement of the main factors of the rural economy in the region under consideration, information on changes in the areas under the different forms of cultivation, the number of head of live stock grouped according to the kind of animal, etc. The fundamental part of the preparation of the peasant index-numbers is the calculation of the regional price index numbers of groups of commodities. The data obtained as a consequence of

analysis of the results of the price changes on the peasant market (price index-numbers of individual commodities and price index-numbers of groups of commodities) and the coefficients calculated on the basis of these data (relations between the index-numbers) constitute the material which is so far ready for economic investigation.

C. Economic Importance.

If the group price index-numbers of the items of peasant economy are compared between themselves, a more exact idea can be formed of the degree to which economic fluctuations take place on the rural market and of the main characteristics of the dynamics of the processes taking place there. These index-numbers may be considered in their different combinations, in accordance with the concrete problems for which a solution is being sought. Here the enquiry may be confined to certain of the more important of these combinations as the limits of the present article would be exceeded if a complete enumeration or study were attempted.

To render possible the ascertainment of the relative degree of economic advantage in the production of certain agricultural products, in other words, their respective share in the total yield value of the farming enterprise, the Institute studies the price index-numbers of the individual rural products in relation to the general index-number of all the agricultural products under consideration. Thus for example by taking into consideration the price index-numbers of flax fibre, rye, oats, and potatoes in relation to the aggregate price index-number of the agricultural products in the flax region (Governments of Smolensk and Kursk) for the years 1925-1928, it has proved possible to arrive at the following results:

Price index-numbers of flax fibre, rye, oats, and potatoes as compared with the aggregate price index-number of agricultural products in 1925-1928.

	1 October 1925	1 October 1926	1 October 1927	1 October 1928
Flax fibre	0.08	0.62	0.81	0.62
Rye	0.78	0.78	0.81	1.52
Oats	0.81	0.87	0.94	1.25
Potatoes	0.76	0.62	0.87	0.87

As may be seen from this little table, during the years immediately following the introduction of the N. E. P., under the influence of the growing demand on the part of the State industry and of the rise in the price of flax on the world market, the index number of flax reached in 1925 its highest point, viz., 0.98.

The proportion contributed by flax to the total yield value of the farming enterprise as compared with the other agricultural products of the region under consideration was thus very clearly shown, and the cultivation of this product was becoming more lucrative. Whereas before the war (1909-1913) the equivalent of a quintal of flax corresponded to 4.63 quintals of rye, in 1924-25 this ratio rose to 5.96 quintals of rye. Beginning from 1925, this capacity of flax to contribute to yield value in the region steadily falls as compared with all other agricultural products, and especially as compared with rye, a product which is usually imported from the cereal producing regions into the flax region. The equivalent of a quintal of flax falls in 1927-28 to 4.72 quintals of rye.

The same phenomenon may be noted in regard to sugar beet in considering the index-numbers of certain agricultural commodities as compared with the price

index-number of all the agricultural commodities in the sugar beet region of the Ukraine for the years 1925-28.

Price index-numbers of sugar beet, potatoes, rye and wheat as compared with the aggregate price index-number of agricultural products in 1925-1928.

	1925	1926	1927	1928	1928 expressed as percentage of the 1927 price-index
Sugar beet	0.64	0.73	0.80	0.54	0.68
Potatoes	1.21	1.13	0.87	0.93	1.07
Rye	1.06	0.83	0.84	1.18	1.40
Wheat	1.16	0.93	0.70	0.90	1.29

It appears from the foregoing table that up to 1927 inclusive, the proportion contributed by sugar beet to the total yield value of the farming was constantly on the increase (0.64 ; 0.73 ; 0.80) while that of the other crops diminished during the same period in this region. This circumstance was the principal reason of the considerable increase in the area under sugar beet cultivation which during the years 1925 to 1928 underwent extension as follows (in thousands of hectares) : 534, 538, 665, 772. In 1928, a sudden transformation of the position took place, and as appears from the table, the importance of sugar beet in the total farming production declined by 32 per cent. as compared with 1927, while that of rye rose by 40 per cent., that of wheat by 29 per cent. and that of potatoes by 70 per cent. This unfavourable proportion existing between the price index-numbers of the fundamental product and of the other foodstuffs grown in the same specialised region resulted in the reduction of the products of intensive cultivation and brought down their commercial value. It will be recalled in this connection that the wheat harvests were somewhat uncertain throughout the Union during the years 1927 and 1928 and that in consequence the purchasing power of cereals was relatively higher than that of flax, sugar beet, etc. These figures, which reflect the variability of rations existing between the economic capacity of the separate agricultural products, must be regarded as symptoms which may serve as sign posts for the guidance of the agrarian policy. The importance of these figures becomes even greater if they are analysed at the same time as the other peasant index-numbers of the Moscow Institute for the Study of Economic Fluctuations.

If the price index-numbers of the agricultural raw materials are compared with those of the manufactured products of these raw materials considered at the different stages of their elaboration or transformation and in connection with the various types of treatment undergone, the stage and the type of transformation can be determined which confer on the given raw material the greatest purchasing power and thus appear to be the most advantageous for peasant farming. A comparison between the price index numbers of milk and butter makes clear the working of the dairy products market in the Ural dairy region. The ratios between the price index numbers of milk and of butter, the index for butter being taken as equal to 1, have been the following, in the course of the four last years :

1 October 1925	0.88	1 August 1927	0.77
1 October 1926	0.71	1 July 1928	0.68
1 July 1927	0.74	1 August 1928	0.70

It may thus be stated that a comparison of the price index-numbers of milk and butter from 1926 onwards indicates a considerable decline in the importance of the dairy products market. If the conditions of this production are not so good as they were, this is mainly due to the rise in the costs of the processes of transformation of milk and to increase of middlemen expenses as well as of cost of transport.

As regards potatoes, in the first place that there may be transformation for the manufacture of starch or for the production of potato spirit. On analysis, for the potato region (Governments of Yaroslav and Kostroma) the ratios between the price index-numbers of potatoes taken as unit and those of starch, the following figures are obtained :

I August 1926	0.52
I " 1927	0.59
I " 1928	0.76

It appears from these data that in spite of the steady increase in the influence of the price of the potato on its industrial transformation into starch, it still represents only 76 per cent. on 1 August 1928, as compared with pre-war conditions. Starch prices must therefore be considered, in present day conditions, as too high in proportion to the prices of potatoes. The raised price level, always characteristic of the transformed product, is explained in the present case, as in the preparation of butter from milk, from the influence of factors connected with cost of production and trading. On the basis of price index numbers, the advantages of transforming potatoes into alcohol may also be shown, as well as the proportion contributed by either of the two manufactured products, alcohol and starch, to the total yield value, as compared with their raw material, the potato. It is clear that, of the two tendencies in respect of potato transformation, the stronger will be that which is the better adapted to existing economic conditions and, primarily, to the economic fluctuations of the market.

The problem of the "scissors" in its widest sense is thrown more clearly into relief by the ratios existing between the price index numbers of all agricultural products supplied to the markets and the price index numbers of all the manufactured goods purchased in the country. This ratio at the same time indicates the point up to which a commercial exchange of its products with those of industry is advantageous to rural economy. On the basis of the data collected by the Moscow Institute these ratios are expressed, in the different economic regions, during the years 1927-828 by the following figures :

Regions of production	Ratios between the price index-numbers of agricultural products sold and those of manufactured goods purchased	
	1 August 1927	1 August 1928
Flax	0.77	0.89
Potatoes	0.70	1.14
Sugar beet (Ukraine right bank)	0.70	0.91
Wheat (Ukraine southern steppes)	0.89	1.14
Wheat (Northern Caucasus)	0.80	0.85
Milk and wheat (Western Siberia)	0.86	1.05
Milk (trans-Ural steppes and forests)	0.65	0.94

The improvement of the ratio between the price index-numbers of agricultural products supplied to the markets and those of manufactured goods purchased, an improvement, that is, of the 1928 position as compared with that in 1927, is a good indication of a larger development and the more advantageous character of the trade interchange between country and town. The importance of this statement is however diminished by the fact that the ratios between the price index-numbers of the rural products sold and those of manufactured goods directly required for the needs of the rural economy have been higher than the ratios between the price index-numbers of the rural products sold and the price index-numbers of all manufactured products in general, as appears from the following table :

Regions of production	Ratios between the price index-numbers of agricultural products sold and the price index-numbers of the manufactured goods required for farming purposes	
	1 August 1927	1 August 1928
Flax	0.87	1.05
Potatoes	0.77	1.23
Sugar beet	0.71	0.98
Wheat		
» (Ukraine.	1.01	1.25
» (Northern Caucasus)	0.98	1.03
Milk (Western Siberia)	0.98	1.16
» (trans-Ural)	0.78	1.14

It may thus be stated that in all the regions and during corresponding periods, the price index-numbers of manufactured products required on the farm, *i. e.*, the price index-number of the means of production, is higher than the price index-number of all manufactured goods bought, considered as compared with the index-number of agricultural products placed on the market. The commercial interchange between town and country thus shows a tendency towards increase, but this increase is mainly due to the purchasing of a larger quantity of manufactured products for consumption in the rural family, and not to the purchase of industrial products for use on the farm. This unfavourable position of the balance between the prices of farm requisites, the prices of manufactured products for personal use and the prices of agricultural produce sold, forms an obstacle to the accumulation and investment of capital in peasant farming, so far as that depends on market conditions, as well as to the supply of machines, implements, etc. The stimulation of the circulation of the products of rural economy, and the steady development of business relations between rural production and the market, are consequently becoming the principal object of the Russian economic policy.

The Institute for the Study of Economic Fluctuations is calculating, in addition, a whole series of other peasant index-numbers which will render clearer the various aspects of the economic position of rural industry. Some few may be mentioned here, as for example, the ratios relating to the price index-number of the commodities produced, and that of all the products used on a farm. From these index-numbers it is possible to judge of the ratio between receipts and expenditure of the rural economy, and they are also, *ceteris paribus, i. e.*, when the farm organisation and the aggregate production remain invariable, the measure of the degree of advantage to the peasant undertaking the farming

himself. Another example is that of the index-numbers which represent the ratio between the price index-number of agricultural products and the price index-number of all the manufactured goods consumed by the farming family; this latter corresponds, *ceteris paribus*, to the changes in the level of material welfare of the country, in so far as that depends on the economic fluctuations of the market. The Institute for the Study of Economic Fluctuations is now trying to resolve another problem which is a pressing one at the present time, that of the calculation of the index-numbers of the wages of agricultural labour. The variation in labour costs may throw light on a whole series of economic phenomena which are as a rule not reflected either in the price index-numbers of the marketed products, nor in the index-numbers representing the farm prices. During the first years of the N. E. P., the index-number of labour cost in the rural economy was much lower than the price index number of the marketable agricultural products. Thus in the different departments of the regions of flax and potato production respectively, these ratios may be determined for the year 1925 by the following figures:

Regions	Index-number of the wage of a farm worker boarding himself	Index-number of the wage of a farm worker boarded by the farmer	Index-number of farm prices of products	Index-number of prices of agricultural products marketed
<i>Governments</i>				
of flax } Tver.	1.14	1.11	2.10	1.76
} Smolensk.	1.12	1.08		
<i>Governments</i>				
of potato } Jaroslaw.	1.04	1.30		
} Kholmna	1.21	1.30	2.07	1.50

These low wages of farm workers favour the development of the branches of rural production depending to a considerable degree on manual labour. From 1925 onwards there have been signs of a tendency towards a rise in agricultural wages. According to the data supplied by the Central Department of Statistics, the modifications in wages for the years 1924-1926 has been as follows (expressed as percentages as compared with the previous year in each case):

Regions	1925	1926
Western	145	123
Moscow-industrial	104	121
Northern Caucasus	—	104
Ukraine	112	134

This rise in wages renders less advantageous the production of commodities requiring intensive labour in so far as the wage fluctuations have been higher than price fluctuations and price changes alike in respect of farm prices and of market prices. In this way, if the modifications which have taken place in the ratios between farm prices and the cost of rural labour are taken as basis, the peasant index-numbers may make it possible equally to determine the changes in the intensity of labour in the rural economy.

D. The System of Peasant Index-numbers and Farm Accountancy.

It is essential to note that the peasant index-numbers do not in any way diminish the great importance of farm accountancy for the study of the conditions of agriculture; it may rather be said that these two methods of investi-

gation in fact supplement each other. By means of farm accountancy the net cost of a given agricultural product is calculated and the return guaranteed in this or that branch of production, while it becomes also possible to establish the facts and to obtain the results relating to the farming year which has just elapsed, *post factum*, such results being of course of a retrospective nature. This very circumstance somewhat reduces the actual value of the data obtained by means of farm accountancy; taking all the interacting elements of a branch of agriculture, these data sometimes include factors already superseded by the process of events, and hence they cannot always be used for the direct guidance of rural economic policy. On the other hand, the peasant index-numbers make it possible to follow almost from day to day the varying influences of the market position on peasant farming. Viewed in this way they may be compared to instantaneous photographs, reflecting all the phases of agricultural production in action and in process. On the other hand, the establishment of yearly accounting books of farm economy, with the working out of their contents by the aid of single or double entry book-keeping methods renders it possible to form a really comprehensive idea of the position of the rural economy in its relatively static condition, an idea which at the same time facilitates the improvement of the already existing systems of peasant index-numbers. It is for this reason that from 1919 there was re-established in Russia the study of the peasant farm budgets made formerly by the *Zemstvo*s (or provincial self-governing administrations) and interrupted by the war and the Revolution. At the present time, the People's Commissariat for Agriculture, as well as the Central Department of Statistics, organise on a large scale the farm accountancy operations, especially as regards analysis of the data relating to the receipts and expenditure of peasant economy. The Central Department of Statistics is attempting to resolve on the basis of its general statistical data economic problems, such as: the development of commercial relations between agriculture and State industry, the forms under which capital is accumulating or may accumulate in the peasant economy and the extent to which this may take place, the return which may be expected from farming, etc. On the other hand the object of the statistics of the People's Commissariat for Agriculture, and in particular the work of the local economic institutions, is to analyse the organisation of the peasant farms with varying types of production. The Central Department studies in detail more than 10,000 peasant farm budgets yearly. Even more extensive operations are being carried on by the same Department for the study of the economic and social processes going on in the rural areas which reflect the changed circumstances and mentality of the different classes of peasants and the mutual relations between the well-to-do peasant (*Kulaki*), the peasants whose position is intermediate (*Srednjaki*), and the poor peasants. Statistical investigations of this kind which have been scarcely made at all in other countries have a very great importance for the Soviet Union, the future ideal of which is the Socialist State. They relate in particular to problems such as the social differentiation of the rural population, the importance of the different groups of rural dwellers in the economic and intellectual life of the village, the rôle of private capital in the country, etc. These investigations apply on an average to 750,000 farms per annum, i. e., to 3 per cent. of all the peasant farms existing in the Union.

The peasant index-numbers of the Institute for the Study of Economic Fluctuations are at present calculated only on the basis of characteristic weights for the average sized farms of each region. The Institute however intends to calculate, as is the practice at the Central Department of Statistics, and as the available

material comes in, the peasant index-numbers in groups weighted for each separate social and economic group, in other words, the index-numbers for the well-to-do peasants, for those in an intermediate position and for the peasants living in poverty.

As regards the relation between the peasant index-numbers and the general index-numbers, it may be added to what has already been said on this point, that certain phenomena which are reflected in the peasant index-numbers may also appear up to a certain point in the general index-numbers. Examples are: the relation of the price index-number of agricultural products supplied on the market to the price index-number of all commodities purchased by the country, in the system of peasant index-numbers on the one hand, and on the other the relation of the index-number of the prices of agricultural products with that of the prices of manufactured products, in the system of general index-numbers, both revealing in the ultimate analysis "the same single problem of the "scissors". The relation of the price index of agricultural products sold to that of the commodities produced, in other words the degree of advantage gained by the sale of agricultural products, and also the ratio of the price index of marketable agricultural commodities produced to the price index of all commodities used in farm economy, or the relation between receipts and expenditure, may also become clear if use is made of the general index-numbers as a basis. This is however only true up to a certain point, since in these general index-numbers, which are not calculated in accordance with any criterium adapted to a specialised analysis, not all the phenomena reflected by the peasant index-numbers are taken into account, and moreover since the general index-numbers contain elements not essential for the purposes of the peasant index-numbers.

The proposed scope of these peasant index-numbers in Russia is thus much vaster, and the interpretation which they will offer of the conditions of agricultural economy is much more penetrating, than that of the farmer index-numbers of the U. S. Department of Agriculture. The guiding principle of these latter resembles that of the Russian peasant index-numbers, but it is limited merely to the calculation of the "purchasing power of agricultural products". American index-numbers are established on the basis of the price which the farmer really receives for his products sold off the farm as compared with the prices of non-agricultural commodities bought wholesale or retail, or purchased on the spot. Evidently this last comparison gives a more exact idea of the purchasing power of the farm products.

In studying the movements of the ratios of market prices it is thus possible, using the peasant index-numbers as basis, to forecast the shifting and the possible fluctuations in agricultural production, and to prophesy, up to a certain point, the direction which price changes will impose upon peasant farming. For the rest, political economy may find in the peasant index-numbers another series of data of exceptional interest in relation to the economic fluctuations of rural economy.

M. T.

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FARM ECONOMICS

Price Reports at the Institute of Rural Accountancy and Economy at Prague (1).

The action taken by the *Institut de Comptabilité et d'Economie rurales* of the Czecho-slovakian Republic in regard to preparation of "Rapports sur les prix" enables it to ascertain not merely the prices which the farmer obtains for his products (producer's price) but also those paid by the agricultural classes for farm requisites and for certain articles intended for their own consumption. The object of these investigations into price conditions in agriculture is to ascertain under what price conditions agricultural production is being carried on in Czecho-Slovakia, as compared with the pre-war conditions. With this purpose the Institute is establishing index-numbers, based on the pre-war prices — average of years 1913 and 1914 — and in relation to the quantities of agricultural products sold before the war — average of years 1909 and 1913.

The subsidiary object of these investigations is to obtain statistical data on the price conditions so as to determine what is the situation as to economic fluctuations (*Konjunktur*) in Czechoslovakia and thus to investigate the influence of different factors, e. g. the economic situation, the production region, the size group of the farm in question, etc., on the formation of prices of products, as well as the influence of farmers' own requirements.

(1) Memorandum sent to the International Institute of Agriculture by Pro. Ladislav BRDLIK, Director of the *Institut de Comptabilité et d'Economie rurales*, of the Republic of Czecho-Slovakia at Prague.

Organisation. — The price reports have been systematically organised beginning from the year 1924 and the first Report was submitted to the Institute by the reporters under date of 1 January 1925.

Investigations into price conditions on farms are being made throughout the whole territory of the Republic. The Institute has established a close network of reporters in every region, thereby ensuring that not only the different regions of production of sugar beet, cereals, potatoes and forage crops, but also the size groups of farms (*viz.*, from 2 to 5, from 5 to 20, from 20 to 100 hectares of agricultural land), in the different countries of the Republic, *i. e.*, Bohemia, Moravia, Silesia, Slovakia and Subcarpathian Ruthenia, should be represented by such a number of reporters as corresponds in each case to the actual area of the regions in question as well as to the number of the farms in each size group.

The reporters are nearly all practical farmers or agriculturists; for the most part they are persons with whom the Institute of Rural Accountancy has already been in touch through its enquiries or the actual work of accountancy. This fact cannot fail to be of advantage, as ensuring that the price data correspond precisely with the actual situation.

The number of reporters is constantly varying, as at any time for a longer or a shorter period there is a minority not sending in any report on prices, and the Institute does not always succeed in immediately filling the gaps thus made. In spite of this drawback, about 500 price reports are received per month.

Description of these investigations, their extent and the method of procedure. — A circular has been addressed by the Institute of Rural Accountancy to the farmers explaining the object of these investigations and inviting them to undertake the work of reporting on prices, the Institute undertaking on its side to supply persons so reporting with the results arrived at free of charge. When sending out receipts for subscriptions the opportunity is taken of enclosing a questionnaire to be filled up by all concerned, the questions relating to typical general points, such as size of farm, different crops and their relations to each other, economic position of the farm, etc.

The reporters receive at the same time as the schedules for the price reports with stamped envelopes, instructions on the method to be followed in entering the prices on these schedules so as to ensure uniformity. The prices which the cultivator has obtained himself or which he has paid are indicated in a special manner in the price report the figure standing for the price being enclosed in a circle, *e. g.* (32); otherwise the prices shown in the reports are those obtained or paid by the growers of the commune where the reporter resides and in his immediate neighbourhood.

From the schedule of the price report, attached, it will be seen what are the farm products, the farm requisites and the commodities in every day use by the farm worker, the prices of which are registered.

The reports on prices are established by the reporters at the end of each month and contain the prices of the end, that is of the second half, of the month which has just elapsed. The numerical data of the price reports are checked immediately after their arrival at the Farm Accountancy Institute, so far as staff conditions allow. Information containing errors is noted and corrected by the reporter, by correspondence.

Elaboration of the statistical material. — The material obtained is classified at the *Institut de Comptabilité* following the different countries of the Czecho-slovakian Republic, on the one hand as regards the size groups already indicated of

CZECHOSLOVAKIAN INSTITUTE OF FARM ACCOUNTANCY AND RURAL ECONOMY

Commune **PRICE REPORT** Administrative district
 Post Office on about (date) 192

1. Current prices of agricultural products in the neighbourhood

Items	Sold			Price most often obtained		Sold			Price most often obtained
	Unit	From	To			Unit	From	To	
Wheat	q					Horses : from 3 to 5 years old	pair *		
Rye	q					From 10 to 15 years old	pair *		
Barley	q					Colts : 1 year old	head		
Oats	q					" 2 years old	head		
Millet	q					Work for . . . hours per day in a team of 2 horses . . .	per. day		
Peas { grey*	q					Cattle : oxen l. w.	kg		
Peas { green*	q					Young oxen l. w.	kg		
Lentils	q					Dairy cows l. w.	kg		
Beans (broad)	q					Dairy cows l. w.	kg		
Peas for fodder	q					Bulls l. w.	kg		
Vetches { summer crop*	q					Calves half fattened l. w.	kg		
Vetches { winter crop*	q					Young animals for breeding l. w.	kg		
Meslin	q					Calves not weaned, l. w.	kg		
Hops	q					Pigs : fattened to over 60 kgs. l. w.	kg		
Rapeseed	q					Pattened to over 60 kgs. d. w.	kg		
Mustard	q					Young pigs for roasting l. w.	kg		
Poppy	q					Young pigs for roasting d. w.	kg		
Linseed	q					Sows for breeding l. w.	kg		
Hempseed	q					Sucking pigs, l. w. per pair of kg.	pair		
Cummin	q					Sucking pigs, l. w.	kg		
Serradella	q					Sheep : for breeding l. w.	kg		
Flax stems	q					Lambs l. w.	kg		
Flax, retted	q					Goats : for breeding l. w.	kg		
Flax, scutched	q					Kids l. w.	kg		
Potatoes { for table*	q					Poultry : goslings	head		
Potatoes { for industrial purposes*	q					Geese lean	kg		
Sugar-beet	q					Geese, half fat	kg		
Mangolds	q					Geese, fat { l. w.*	kg		
Chicory	q					" d. w.*	kg		
Calabage	q					Ducks l. w.	kg		
Carrots	q					Turkeys l. w.	kg		
Onions	q					Hens	kg		
Garlic	q					Chickens	kg		
Cucumbers (gherkins)	(1) kopa* kg					Pigeons	pair		
Crimson clover (seed)	kg					Hens' eggs	no.		
White clover (seed)	kg					Miscellaneous : Milk	litre		
Alsike (seed)	kg					Butter, from sweet cream	kg		
Red clover (seed)	kg					Butter, from sour cream	kg		
Lucerne or Alfalfa (seed)	kg					Curds	kg		
Sainfoin (seed)	kg					Honey	kg		
Timothy grass (seed)	kg					Feathers	kg		
Sweet hay, not pressed	q					Down, new	kg		
Straw, not pressed	q								
Cherries	kg								
Apples	kg								
Plums	kg								

*Strike out the word which does not apply.

(1) Kopa = five dozen.

Notes : l w. = live weight.
d. w. = dead weight.

II. Current prices of agricultural requisites in the neighbourhood

Items	Current Prices			Price most frequently paid	Items	Current Prices			Price most frequently paid
	Unit	From	To			Unit	From	To	
I. Fertilizers:					Four-pronged, ordinary forks	piece			
Chili nitrate	q				Scythes { sickle*	»			
Sulphate of ammonia	q				{ scythe*	»			
Calcium cyanamide	q				Baskets	»			
Superphosphate . . . %	kg ½				Potato hampers	»			
Basic slag	q				Buckets	»			
Bonemeal	q				Halters, breast collars	»			
Potashes containing 40 % of K ₂ O	q				Traces { for horses*	»			
Kainite . . . %	q				{ for oxen*	»			
Clarification residues	q				Horse rugs	»			
2. Fodder: Bran	q				Harness { Saddles	»			
Rapeseed cake	q				{ Collars	»			
Linseed cake	q				{ Traces	»			
Maize	q				8. Agricultural machinery	»			
Molasses	q				(new)	»			
Seed sprouts	q								
Sliced beets, fresh	q								
Brewer's grains, { fresh residues	hl q*								
{ dry	q								
Wine distillation residues	hl q*				9. Wages: (in cash)	hour*			
3. Seeds: crimson clover	kg				Day labourers { man	day*			
Young plants: grafted	no				With board { woman	hour*			
plum-tree	»				{ day*	hour*			
4. Combustibles	q				Day labourers { man	day*			
Coal { lignite*	q				Without board { woman	hour*			
{ coal*	m*				{ day*	day*			
Firewood	m*								
Wood for building, construction etc.	kg				Piece work wages:				
Petrol	litre				Beet: moulding up lifting	(t)			
Electric current, illumination	kwh				Beet { Topped*	(t)			
power	litre *				harvest { not Topped*	(t)			
Petroleum	litre *				Mowing	(t)			
5. Building materials	kg				10. Food and drink:				
Cement	q				Rye flour	kg			
Bricks (tiles) in thousands	q				Wheat flour	kg			
Building lime	m*				Beef rump	kg			
Timber work	»				Pork	kg			
Laths (length 6 metres)	piece				Beer	litre			
Iron: strips	kg				Sugar	kg			
" axes	kg				Kitchen salt	kg			
6. Wages:	per day				11. Clothing:				
Carpenter { With board*	»				Calico	m			
{ Without board*	»				Muslin	m			
Mason { With board*	»				Zephyr	m			
{ Without board*	»				Cloth for dress (wool)	m			
Slater or { With Board*	»				Working shirts { summer	piece			
{ Without Board*	»				{ flannel*	»			
Shoemaker { Horse- { for summer shoes. { for winter	piece				Working { of canvas*	»			
{ Cattle-shoes, half	»				clothes { Manchester cloth*	»			
Sharpening ploughs	»				Hats, felt (average quality)	pair			
7. Small gear:					Boots	»			
Shovels of sheet iron	»				Heavy boots	»			
Brooms, heather	»				Re-soleing and re-heeling	»			
Wooden rakes	»				Tailor's work (making only)	piece			
Six-pronged beet forks	»				12. Land: Fields	(t)			
					Meadows	(t)			

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Signature written legibly

*Strike out the word which does not apply.

(1) Insert the unit of area (arpent = French acre, hectare).

the farms and on the other, according to the different production regions. The average prices calculated in respect of the various products and farm requisites are the simple arithmetic means of the prices usually realised.

In order to fix the index-numbers (or the comparison of the present day prices of products and requisites with the corresponding pre-war prices) the pre-war prices realised by the farmers must be determined. The *Institut de Comptabilité* employs such pre-war prices as are available as a consequence of the methodical book-keeping practised by the farmers in Bohemia in 1913. In certain production regions the *Institut de Comptabilité* did not possess sufficient data on pre-war prices to be able to calculate averages, and accordingly the various production regions have been grouped together, that is to say the wheat growing region, the mixed wheat and potato growing region and finally that of forage crops, into a single region of non-beet cultivation. Consequently, for Bohemia there were established only the average prices and the index-numbers calculated on the data supplied by the sugar beet growers and by the growers of all other crops, always with respect to the size groups of the farms under review.

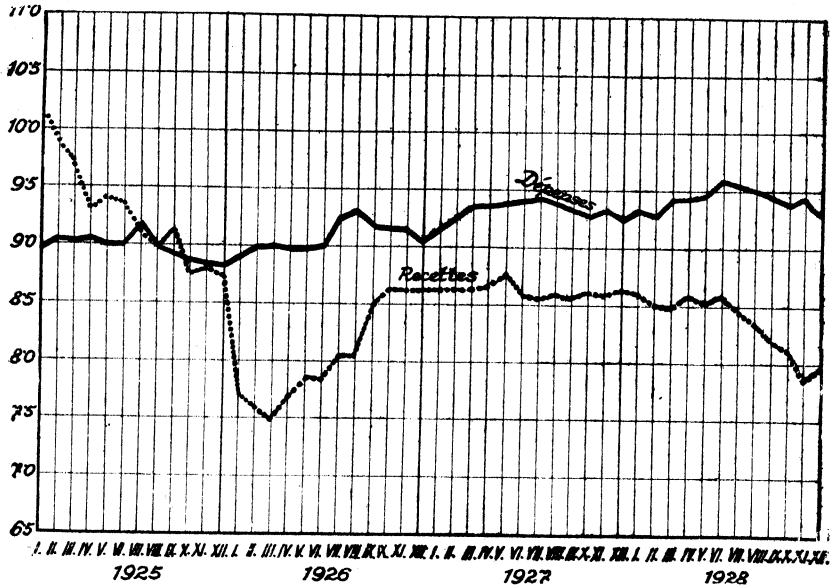
In addition to the simple index-numbers, the Institute also establishes the index-numbers relating to the animal and vegetable products and to the farm requisites. In the respective index-numbers the influence appears of the index-numbers of each product or requisite, in the same proportion or according to the same weight corresponding to the quantity of products (or of requisites), as shown by the total receipts (or expenditure) of the growers of the respective size group, or, if need be, of the region of production or of the country in question. The proportion of farm products, or requisites, essential for the fixing of the relative index-numbers in accordance with the different size groups, of the farms, with the various production regions and territorial areas, has been determined by the results of detailed investigation into the conditions of production, organisation and farming results in Czecho-slovakia, an enquiry conducted by questionnaire which has been regulated by the Institute and carried out over 1,652 farms. The figures thus obtained express the pre-war average of five years, *viz.*, from 1909 to 1913. For the majority of the products, the proportion adopted is the pre-war quantity of the natural products. For certain products where the quantity "in natura" is very small (*e. g.* the number of horses), or impossible to fix (carting charges), as well as for what relates to material, etc. required on a farm in cases where a number of items are involved (*e. g.* charges, made by artisans), the measure is supplied by the monetary value (in crowns) of the respective receipts or expenditure of the pre-war period.

The fixing of the respective index-numbers relating to the total receipts as well as to the expenditure of farmers in the respective size group of the farms or the crop regions, or where necessary also the territorial area, is regularly carried out on the basis of the proportion in which they enter, in accordance with what has been said in the previous paragraph. Where the quantities of production "in natura" are known, they are merely multiplied by the present average; on the other hand, in the case where the proportion is shown in pre-war crowns, they are multiplied by the representative index-number of the item in question.

The relative index-numbers on calculation are then registered in the graphs. For information, a summarised copy is attached, in which are shown the index-numbers of the receipts and expenditure of sugar beet growers and other growers in Bohemia, without distinction of the size groups to which these farms belong.

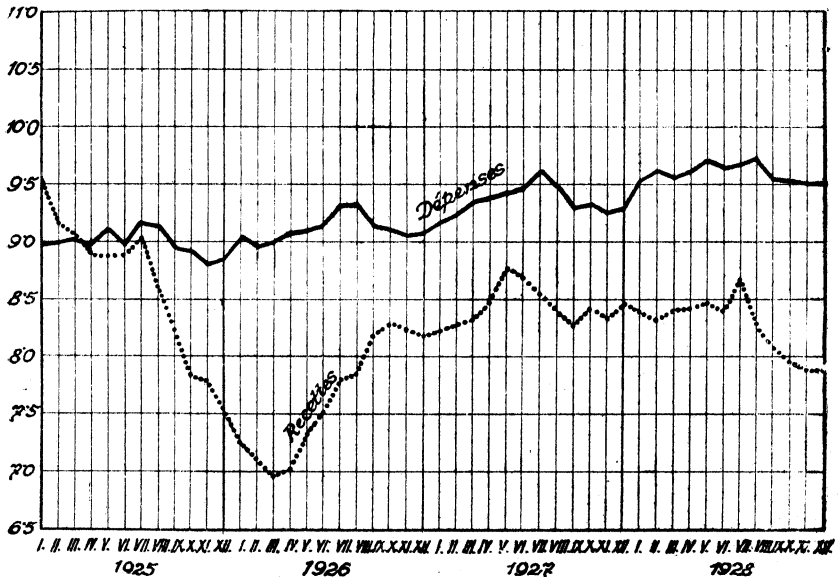
INDEX-NUMBERS FOR SUGAR BEET GROWERS IN BOHEMIA.

Dépenses = Expenditure. — *Recettes* = Receipts.



INDEX NUMBERS FOR FARMERS NOT GROWING SUGAR-BEET IN BOHEMIA.

Dépenses = Expenditure. — *Recettes* = Receipts.



MARKETING OF AGRICULTURAL PRODUCE

The Protection of Coffee as explained in the Message of the President of Brazil.

In the November (1928) number of this Review an account appeared of the main provisions of the agreement made and recently renewed, between the more important coffee-growing States of Brazil, and of the scheme for the permanent "protection" of this product, a scheme on the sound working of which depends to a very great extent the prosperity of the whole nation. Some few data intended to illustrate the importance of this crop and the manifold problems and interests involved are contained in the Message which the President of the Republic, Washington Luis, has lately addressed to the National Congress. Attention is here in the first instance drawn to the fact that out of a total export in 1928 to the value of 3,970,273:000 \$ (£ 97,426,000 sterling) coffee figures to an amount of 2,840:414 \$ 596 (£ 69,701,259 sterling) and a quantity of 13,881,441 bags (1). The President further reports that the object of the agreement has been virtually successfully attained, the transport of coffee to the export markets having been authorised in favour of the growers to the extent essential for consumption, as correctly ascertained, and the financing of the surplus being assured by deposit in special warehouses (*armazens reguladores*). Previously the crops were instead placed upon the home markets and were sold there without rule or order. The glut tended to lower prices, by stimulating purchases of quantities much in excess of the needs of the year, thus forming huge stocks. As the result of this purchasing of the large crops at a low price and of the consequent accumulation of stocks, speculators could refrain from buying for one or more years and, in dealing with a grower who was obliged from some failure in the organisation of credit facilities to sell in a hurry, could finally impose absurdly low prices for the smaller crops which as a rule follow on the years of high production. Thus for the large crops prices were low on account of the quantity, and for the small crops they remained low as the accumulation hindered the rise. In addition the sales effected abroad in the short space of three or four months brought about in that time a considerable influx of bills of exchange in sterling to an amount fluctuating round £70,000,000. This influenced the exchange, as in consequence the growers banked a less quantity of Brazilian paper money, while their sacrifice did not result in any advantage to the consumers. Two facts however contributed to modify the absurd situation: on the one hand the war by making transport impossible for several years exhausted the reserves of coffee held abroad, and on the other hand the severe frost of 1918 almost entirely destroyed the plantations and for a certain length of time reduced the crops. These vicissitudes had the effect of focussing the special attention of the authorities on this branch of the national economy and gave rise to the idea of organising the present system of protection of the product, which is briefly explained in the Message, as follows:

Having taken as basis the quantity exported of the previous harvest with the addition of a percentage representing its progressive increase, the world demand is calculated with a wide margin and is placed in relation to the harvest in progress, the world demand being of course met also by supplies from the other countries which grow this commodity. The presumed contribution of the Brazilian product to the general consumption is then assigned in proportion among the coffee growing States which in their turn proceed to the arrangement of the requisite means of

(1) The unit of measurement for coffee is the bag of 60 kilos.

transport. The railway agents thus come to know exactly the share of the whole which each grower can export, while the quota warehoused is also known. This system corresponds to the principle of the so-called "limitation of entries" at the ports of embarkation. The quantities withdrawn are placed in deposit, with all the usual indications, in the already mentioned *armazens reguladores* and may also be "warranted" by the release of approved certificates, the growers in this way receiving an advance on the value of the goods consigned. The plan for the protection of coffee thus consists of two parts, the first has been seen to relate to the regulation of the offers, the second designed to provide the growers with credit. The financing is practically done by banks which on the security of the pledge deposited usually advance up to 80 per cent. of the estimated value, so that the *fazendeiro* can meet the expenses of cultivation while waiting for crops which by their scarcity will result in the exhaustion of the surplus of those which were abundant. Some of the Brazilian States have also encouraged the establishment of banks with special sections for financing operations of this kind.

As is well known, in the State of São Paulo all the "protection" operations are concentrated in the "Coffee Institute", instituted by the Law No. 4,984 of 31 December 1925 and empowered by that law to undertake credit operations and to issue bonds. The institution is under the direction of the *Secretário da Fazenda*, acting as President, the *Secretário da Agricultura*, as vice-president, and three members chosen from persons of known competence in agriculture, commercial and banking affairs. In the same way, the State of Minas Geraes, the second in importance of production, has instituted in dependence on the Secretariat of Finance a Service for the Protection of Coffee, with two inspectorates, one at Rio de Janeiro and one at São Paulo. The work undertaken by these offices is as follows: (a) to make an estimate each year of the crop in the State; (b) to come to an agreement with the representatives of the other coffee-growing States as to the quantity of coffee from Minas Geraes which is to be sent monthly or within a stated period to every port of exportation; (c) to facilitate the forwarding of growers' consignments to the specified markets, in proportion to their respective production; (d) to make satisfactory transport arrangements with the railway companies including a strict rotation of loading. By the Law No. 1914 of 24 August 1928 a State Coffee Department has also been established in the State of Pernambuco, its function being to enquire into and give information in respect of the cultivation systems best suited to the region and to promote plantation improvements by means of selection. For this purpose the Department is empowered to establish an Experiment Station with a model farm, courses of training in the cultivation of coffee, a Section for control of consumption and export with an office for propaganda, etc., attached, situated at Recife; finally a Station of Agricultural Meteorology for the systematic study of the climate of the district, and of the temperature of the soil at different depths. The provisions of this law which are here merely referred to, and the measures adopted in other States of Brazil (Rio de Janeiro, Parana, Espírito Santo, Goyaz), are evidence of a tendency to introduce to an increasing extent technical improvements into this cultivation, to single out and diffuse the varieties yielding berries of superior quality, along with a gradual elimination of varieties which show deterioration, the object throughout being the standardisation of the product, a point the importance of which for commercial purposes is well understood. Mention may be made of enquiries and experiments with a view to exporting roasted coffee in boxes, so as to guarantee genuineness and purity and to act as a check on adulteration which is widely practised in the trade in this valuable commodity.

The first anxiety however at the present moment is to reduce the cost of production, and with this in view precise enquiries have recently been made in the State of São Paulo the principal results of which may be stated as follows:

It may first be noted that in 1927 there were in São Paulo 43,625 plantations, covering an area of 1,633,313 hectares with 1,047,496,350 plants, and that the production of coffee in that year amounted to 39,506,100 *arrobas* (1). In addition 136,750,000 new plants were put in, which are not yet in bearing. The *fazenda* in Brazil is the typical large estate, including coffee plantations, pastures and forests. The necessary buildings (*e. g.*, for the drying of the coffee berries, machine sheds, sheds for the handling of the product, storehouses, settlers' houses, etc.) entail a large capital, or about 250:000\$ (2) for each *fazenda* of 500,000 plants. Nor are the costs of labour less heavy. It is reckoned that one worker is required for every 2000 plants. In addition to the settlers engaged in the care of the plantation and crop, a *fazenda* of medium size requires a certain number of labourers (*camaradas*) for different purposes: persons to help with the drying, mechanics, drivers of lorries, carters, stockmen, etc. (3).

The cost of laying out a *fazenda* in São Paulo, given the present value of the land and the high price of labour fixed partly from a consideration of the great distances apart of the cultivated zones, has noticeably increased. An estimate of 5\$700 per plant is given for the cost of making a plantation in the region served the North-western railway line, where the large *fazendas* are being laid out. The price of land suitable for coffee growing varies in this region between 800\$000 and 2:000\$000 the *alqueira* (4). Basing the calculation on the lower price and taking the case of a plantation of 700 coffee plants per hectare, the cost of planting for 1,000 plants may be reckoned at 5:700\$520, distributed as follows: price of the land, 471\$8800: work of cultivation up to the fourth year, at the rate of \$2 per plant, 2:000\$000: preparation of land and planting, at the rate of \$5.00 per plant, 500\$000; housing for workers and *camaradas*, 600\$000; cleaning and grading of the berries, at the rate of \$500 per plant, 500\$000; interest charges at the rate of 10 per cent. per annum, 1:628\$720.

There are three areas of coffee cultivation in the State of São Paulo: the original zone with about 600 million plants, the one next planted with 300 million plants, and the new one with 100 million. The cost of production in these naturally varies with the various factors and in particular in proportion to the varying fertility of the soil. The prevailing cost in the original zone, where the conditions are less favourable as appears from the constantly decreasing yield, represents the maximum cost; that prevailing in the intermediate region may be regarded as the average cost; while the lowest cost is that which is characteristic of the new coffee-growing zone where the soil is rich in humus and the yield abundant. As the result of the enquiries three types of *fazendas* have been singled out as representative of the three regions. The ascertained yield is 37, 55 and 70 *arrobas* respec-

(1) 1 *arroba* = 15 kilogrammes.

(2) One *milreis* (1\$000) = fr. 3.25 at the exchange of 28 February 1929. The *conto de reis* (1:000\$090) = 3250 fr.

(3) The capital invested in the laying out of a *fazenda* which will not come into bearing till the fifth year is exposed to serious risks from the falls in temperature, frosts, and diseases which may spoil the plants. Frosts occur periodically. The whole success of the undertaking may be threatened by the appearance of the *broca* beetle (*Stephanoderes hampei*) which may seriously damage the crop. In regard to the influence of the meteorological factor see De Sampaio Ferras (Dr. J.): *O café e os factores meteorologicos*. Ministerio da agricultura, industria e commercio. Directoria de meteorologia. Rio de Janeiro, 1928.

(4) 1 *alqueira* = 2.42 hectares.

tively per thousand plants, these figures more or less coinciding with the average productivity of each of the tracts. The capital invested in the three zones was calculated respectively at 4\$000, 5\$000 and at 6\$000 per plant. In the fixing of the cost various factors are taken into consideration: the labour, materials (fertiliser, bags, implements, etc.), management expenses, cost of transport, sundry taxes, etc. The cost of production of one *arroba* of coffee is thus seen to be, in the original zone, 42\$768, in the zone next planted, 35\$804, and in the new zone, 32\$667. The factors which contribute to making it so high are: in the original zone more especially the somewhat primitive systems of cultivation, and in the next zone in particular the high cost of labour, the low population density making it difficult to obtain labour, and also the transport rates which are here heavier on account of the longer distances. The investigations mentioned have led to the conclusion that in order to safeguard and intensify the production of coffee in São Paulo it is essential to adopt more systematic methods of cultivation, of harvesting and of preparation of the commodity, in other words to increase the yield and — what is of more importance — to improve the quality of the product. In the recent Presidential Message it is made absolutely clear that the Government policy for the protection of coffee definitely aims at ensuring a fair price to growers by means of an accurate revision of the cost of production. Such a revision will take the form of the adoption of all possible improvements on the technical and commercial sides, improvements which have been made the more practicable here, as in other branches of activity by the accomplishment of the monetary stabilisation which has given a fresh impulse to the economic life of the country.

G C.

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ECONOMIC AND SOCIAL CONDITIONS OF THE AGRICULTURAL CLASSES

Recent Views on the Problem of Farm Household Management Instruction.

In connection with the increasingly recognised importance of the work of the woman as mother and housewife, the problem of household management instruction has been during recent years the subject of enquiries of considerable interest not only on the part of individual students but also of organisations and Governments.

As early as 1908 there was held, as is well known, at Friburg the first Congress of Household Management Instruction at which it was decided to establish an In-

ternational Bureau of Household Management Instruction the purpose of which was to form a permanent link between the members of the Congress and to act as a centre for the collection of the documentation having reference to the subject in the different countries.

In 1913 the Ghent Congress was held, followed in 1922 by that of Paris and in 1927 by the Rome Congress, on the occasion of which the whole question was examined under its various aspects. In particular as regards the teaching of rural and industrial household management, the recommendation was made that such instruction should be adapted to the different requirements of urban and rural centres, that the character training of the pupils should proceed *pari passu* with their domestic and vocational training, and that a special rural training for their profession should be given to mistresses in rural areas. In regard to methods of instruction it was agreed that it should be regulated by law but not in too rigid a sense, also that it should not be confined to a curriculum of too strictly a scholastic character, as, in order to realise the multiplicity of aims involved, scope for wider initiatives is required. The institution of laboratories of household science was suggested and the function of the housewife in relation to the increased cost of living was discussed.

Subsequently in the special Section for Agricultural Education of the International Agricultural Scientific Council of the International Institute of Agriculture (November 1927) it was noted that in the majority of countries the curriculum of the rural primary school is rarely directed towards agricultural occupations, and that only an inconsiderable number of the young people avail themselves of after-school agricultural instruction. It was accordingly considered advisable that rural primary teaching should be more definitely directed towards agricultural occupations and farm household management teaching. It is also suggested that after-school instruction in rural household management should be made compulsory.

This question has now been considered from a new point of view by the recent Bucharest Congress (June 1929) where, evidently in relation to the phenomenon of the rural exodus which is becoming a serious danger in certain countries, a discussion was introduced by M. De Vuyst of the manner of organising and directing the working of systems of household management instruction on such lines that improvement may thereby be effected in the conditions of life of the woman of the countryside.

With this object the reporter submitted certain principles which may be thus summarised :

(a) the environment in which the young women and girls of the country districts are to be prepared for rural and family life should be a rural and family environment in spirit and in actual fact. The teaching staff should have received a training conducted on thoroughly practical lines, and should have had opportunities of observing all the best aspects of schools of similar type, so that they may be in a position to introduce improvements into their own school, and to try out original methods ;

(b) the administration of the school should not left to the layman ; the curriculum should be drawn up by agricultural experts and a due proportion of attention should be given to the different branches of theory and practice, taking into account the normal activities of the housewife ;

(c) in farm household management instruction, education in the sense of formation of habits is of primary importance ;

(d) the farm attached to the school should be worked in such a way as give an example of maximum yield ;

(e) the farmwoman should be a good mistress of the house: the pupils should be trained in a high degree to organise household work, to understand cookery, to keep clothing in repair and the house in good order;

(f) since the farmwoman should be able to bring up her own children on good lines, and should be able, when required, to enter into social relations, a good school of farm household management should in the first instance prepare all young women for this the most interesting as well as the loftiest part of their mission.

In the Women's Section of the Bucharest Congress the same reporter read a paper on "Some guiding principles for investigation of the rationalisation of women's work on the farm or at home".

Taking as starting point the consideration that a woman's work in the country is usually engrossing and does not leave time for the training of children nor for rest, stress was laid on the necessity for better organisation of her activities both in the interests of the woman herself and in those of the family and society. In practice a beginning should be made by a lightening of the heavier tasks and an attempt should be made to proportion the work systematically in relation to the conditions of the environment, to the available material and implements, etc., always with the greatest possible savings of energy.

In more special reference to farm and domestic work, and with a view to giving the experimenters a unit of measurement and a check on progress accomplished, it was further suggested that a scale of points be adopted and the points assigned according to a fixed principle to the various forms of activity. With a view to definitely establishing the advantage of the use of mechanical means in place of manual labour, it was recommended that comparison be instituted between the cost of manual labour and the cost of mechanical work.

R. J.

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AGRICULTURAL LEGISLATION

Proposed Farm Relief Legislation in the United States.

During the last forty years innumerable schemes have been proposed for the relief of the American farmer and not a few have been presented in the form of bills for the approval of Congress. It is not proposed in this present article however to consider more than three of these bills, except to mention in passing that one of the earliest plans for farm relief was that suggested by David Lubin, the founder of our Institute. Lubin's remedy which took the form of Government bounties on the export of agricultural staple products, although recently revived in a modified form has so far failed to gain the support of the public or even of the agricultural classes themselves. David Lubin will however be gratefully remembered by American farmers as one of the first men to realize their economic disability and to work for its removal. Indeed it would not be an exaggeration to say that the foundation of the International Institute of Agriculture was the direct consequence of Lubin's unceasing pre-occupation with the depression in American agriculture and of his conviction that any organization for the defence of farmers, if it is to be effective, must be on an international scale. That Lubin's anxieties for the future of agriculture in the United States were only too well founded has been fully proved by subsequent experience particularly during the last few years. The unusual prosperity enjoyed under the stimulus of war time economic conditions proved to be short lived and the subsequent rapid fall in prices and in land values

left the farmer in a worse condition than before. Particularly serious was the situation of those farmers who had acquired land by means of mortgage loans at peak prices, either for speculation or for setting up their own farms, and who found themselves crippled by debts out of all proportion the post-war value of their new property. While the farmer's income fell rapidly as a result of the inevitable re-action from wartime overexpansion, his expenses, as represented by interests payable on mortgage debts, taxes, transport costs and to a large extent his labour costs remained fixed charges. The result was an alarming increase in the number of farm bankruptcies and a large scale exodus of farm workers to the city.

No attempt will be made here to summarize the voluminous literature which has been produced by politicians, economists and by official and unofficial representatives of the interests involved illustrating the economic depression and suggesting schemes for its alleviation. The necessity of doing something for the farmer was thus impressed on the political parties, and the Government which came into power in 1924 definitely pledged itself to "the development and enactment of measures which will place the agricultural interests of America on a basis of economic equality with other industries to assure its prosperity and success". Several bills drafted with this object have been since considered by Congress, but the only bill which succeeded in passing both Houses was that known after its original sponsors as the McNary Haugen Bill of 1927. This project represented the development of a scheme which had been submitted to Congress every year since 1924. It succeeded on 17 February 1927 in passing Congress but was eight days afterwards prevented from becoming law by the Presidential veto. On 5 December 1928 Mr. McNary introduced into the Senate another bill under the same title in which an attempt was made to meet the objections to the previous bill as expressed by the President. After further modifications had been made in the text the Bill was introduced before the House on 18 April of this year, while yet another version was laid before the Senate a few days later. The two bills now being considered by Congress are however based largely on the Bill vetoed by the President. In the present article it is proposed briefly to compare these three measures put forward for farm relief.

Turning to the 1927 Bill, in the final form in which it was passed by Congress, we find its objects laid down in its title "An Act to establish a Federal Farm Board to aid in the orderly marketing and in the control and disposition of the surplus of agricultural commodities in inter-State and foreign commerce" and in the "Declaration of Policy" which follows immediately afterwards. According to this Declaration Congress declares it to be its policy "to promote the orderly marketing of agricultural commodities in interstate and foreign commerce". To this end Congress proposes, by the execution of the provisions of the bill "to provide for the control and disposition of surpluses of such commodities, to preserve advantageous domestic markets for such commodities, to prevent such surplus from unduly depressing the prices obtained for such commodities and from causing undue and excessive fluctuations in the markets for such commodities, to minimize speculation and waste in marketing such commodities and to further the organization of producers of such commodities into co-operative associations". The second clause of the bill goes on immediately to provide for the constitution of the Federal Farm Board mentioned in the title of the Bill. It is to consist of the Secretary of Agriculture as an ex-officio member and a representative of each of the twelve Federal land bank districts, to be appointed by the President. The clause after providing for the period of office of such members and the rules for the appointment of their successors, lays down that each of the members "shall be a citizen of the United States, shall be the producer of some one or more agricultural products or shall be

interested in and truly representative of agriculture". They are not to engage in "any other business, vocation or employment than that of serving as member of the board" and are to receive a salary and travelling expenses. The general powers of the Board are to be, *inter alia*, "to keep advised from any available sources, of crop prices, prospects, supply and demand, at home and abroad, with especial attention to the existence or the probability of existence of a surplus of any agricultural commodity or any of its food products. It may also advise producers "through their organizations or otherwise in matters connected with the adjustment of production, distribution and marketing of any such commodity, in order that they may secure the maximum benefits under this Act".

Lastly the Board "shall advise producers . . . in the development of suitable programs of planting or breeding, so that burdensome crop surpluses may be avoided or minimized".

One of the "available sources" mentioned above is to be the commodity Advisory Council which the Board is directed by Sect. 4 (a) to create for each agricultural commodity "prior to the commencement of the marketing period for such commodity". The members of these Councils are to be selected annually by the Board exclusively from "lists submitted by the co-operative associations and by other organizations representative of the producers of the commodity in each State that produced in the preceding five crop years . . . an average of three per centum or more of the average annual total domestic production of the commodity and from lists submitted by the governors and by the heads of the agricultural departments of such States". The Councils may ask for information from the Council or furnish it with advice; the section also contemplates certain findings or estimates to be made by the Board in connection with fixing the amount of the equalization fee mentioned below.

This elaborate machinery of information and advice is, of course, created to provide the Board with a proper basis of action for the marketing and disposal of surplus agricultural products which, as stated above is the object of the Farm Board and indeed, the very purpose of the Bill. How does the Board propose to carry out its duties? In the event of a surplus it will as would appear from Section 8 (b) have recourse in the first place to co-operative associations or corporations created and controlled by such co-operative associations. According to Section 5 (a) the Board is authorized to make loans to such associations or corporations to assist them "in controlling a seasonal or year's total surplus, produced in the United States and either local or national in extent". A surplus is defined as a quantity "in excess of the requirements for the orderly marketing of any agricultural commodity or in excess of the domestic requirements for such commodity". Loans may be refused in the event of an increase over the average planting or breeding of any commodity if the increase is in the opinion of the Board above the normal.

If a surplus duly ascertained by the Board cannot be duly controlled by the above means "because of the inability or unwillingness" of the co-operative associations or corporations and if the commodity is adapted to marketing in the manner-laid down in this section then the Board shall (Section 8 (b)) enter into "marketing agreements" with the proper co-operative associations or corporations controlled by them.

The content of these marketing agreements is described in the same section as consisting in the "withholding" by the co-operative associations or corporations mentioned above, of the commodity delivered to them by their members or the purchase for this same object of quantities of the commodity not delivered by such members. The losses, costs and charges involved in these transactions are to be paid

out of the stabilization fund created for each commodity in respect to which marketing agreements have been made and any profits are likewise to be paid into the fund in question. The fund is to be recruited according to Section 10, from advances from the revolving fund of 400,000,000 dollars appropriated by the Treasury (Sect. 12), from profits arising from market agreements, repayments from the advances mentioned above and, lastly, equalization fees. The establishment of this equalization fee is of particular importance inasmuch as it is one of the provisions most criticized by the opponents of the Bill and in particular by President Coolidge in his veto message. The equalization fee is significantly absent from the Bill as re-introduced into the Senate and the House of Representatives this spring, its sacrifice having been demanded by the Republican party as a condition of their support. Mr. Haugen, one of the two authors of the original bill, refused however to yield on this point and his name no longer figures with that of Senator McNary as sponsor of the bill in its amended form. The equalization fee is a contribution paid by each marketing unit of an agricultural commodity in respect of which marketing agreements have been made and representing its "equitable share of the losses, costs and charges" so incurred. Prior to and from time to time during the marketing periods the Board shall estimate the expenses mentioned above and on that basis fix the amount of the equalization fee. The fee is, according to Section 9(c) to be paid upon the transporting, sale or processing of the unit, as the Board may determine. It is not to be collected more than once in respect of each unit. A similar fee is collected also in respect of units of such commodity which are imported into the United States. The Section gives detailed rules as to the collection of all the necessary information from persons engaged in the transportation, processing or acquisition of agricultural products produced in or imported into the United States, and adds a precise definition of these three operations.

The only remaining point to be considered is the power given to the Farm Relief Board to insure co-operative associations against a fall in prices. The object of this insurance is to enable co-operative associations handling staple agricultural commodities to make payments at the time of delivery of any such commodity "fairly reflecting" its current market value. It is only granted in respect of a commodity which "is regularly traded upon in an exchange in sufficient volume to establish a recognized basic price for the market grades of such commodity, and only when such exchange has accurate prices records for the commodity covering a period of years of sufficient length, in the judgment of the Board, to serve as a basis upon which to calculate the risks of insurance". The insurance shall be for any twelve months period commencing with the delivery season for the commodity, and the decline in price shall be "the difference between the average market price weighted for the days and volume of delivery to the association by its members, and the average market price weighted for the days and volume of sales by the association".

Such in brief, were the main provisions of the measure which Congress after lengthy deliberation proposed to put into effect for the relief of the American farmer. It was vetoed by President Coolidge for reasons not merely of detail or of form but on the ground of insuperable objections to its fundamental principle. This may obviously be gathered from President Coolidge's remark that the bill involved the Government fixing of prices, a policy which he described as "an economic folly from which this country has every right to be spared". Again the bill "seeks merely to increase the prices paid by the consumer, with the inevitable result of stimulating production on the part of the farmer and decreasing consumption on the part of the public. It ignores the fact that production is curbed only by decreased,

not increased, prices". The President seemed, like the large majority of the other critics of the bill, to see particular disadvantages in the equalization fee which he described as "a tax for the special benefit of particular groups. As a direct tax on certain of the vital necessities of life" continued the President "it represents the most vicious form of taxation". The bill, in short "would not benefit the farmer" because its effect would be rather "to aggravate conditions which are the cause of the farmer's present distress".

That President Coolidge's standpoint was not however shared by the large body of American opinion may be gathered from the pledge given by the successful Republican party in the recent Presidential election "to the enactment of legislation creating a Federal farm board clothed with the necessary powers to promote the establishment of a farm marketing system of farmer-owned and controlled stabilization corporations or associations to prevent and control surpluses through orderly distribution". Mr. Hoover, the Republican nominee for the Presidency made known his opinion that farm relief constituted their "most urgent economic problem" and promised in the event of his election to call, if necessary, a special session of Congress in March 1929 to consider the whole question. A special session for this very purpose was in fact convened on 15 April. In his message to the members President Hoover, after referring to the complexity of the economic problems facing agriculture declared "I have long held that the multiplicity of the causes of agricultural depression could only be met by the creation of a great instrumentality clothed with sufficient authority and resources to assist our farmers to meet these problems each upon its own merits". The President went on to refer specifically to the desirability of creating a Federal farm board "for the re-organization of the marketing system on sounder and more stable and more economic lines". The two branches of Congress forthwith took up the subject submitted to their attention by the President on the basis of two bills sponsored by Senator Haugen and as already mentioned, introduced in the Senate and the House. These two bills both differ from the measure considered above and from each other. A brief study of these divergences will conclude the present examination of a legislative movement whose outcome is still very largely a matter of doubt and conjecture.

Taking the text of the Bill submitted to the House of Representatives (H. R. 71st Congress, 1st Session) we find that a modification has been made in the title of the Bill. The purpose of the Bill is now said to be "to promote the effective merchandising of agricultural commodities in interstate and foreign commerce, and to place agriculture on a basis of economic equality with other industries". This omission of the "control and disposition of the surplus of agricultural commodities" which was prominent in the title of the first bill, is significant as is the greater emphasis laid in the second instrument on the promotion of co-operative societies. The second bill in fact aims not only at promoting the organization of producers into co-operative associations but also at furthering "the establishment and financing of a farm marketing system of producer owned and producer-controlled co-operative associations and other agencies". This reliance on the co-operative societies as the organizations which can do most for the orderly marketing of agricultural products runs through many of the other provisions of the Bill.

Turning to the Farm Board we find that it has been reduced in membership from twelve to six. The Secretary of Agriculture remains as an ex officio member. Some important modifications have been likewise made in its functions. The duty of the Board under the 1928 Bill of paying "especial attention to the existence or the probability of the existence of a surplus of any agricultural commodity" has been changed to that of investigating "conditions of overproduction of agricul-

tural commodities" and advising "as to the prevention of such over production" (Sec. 4). The Board is no longer required directly to "advise producers . . . in matters connected with the adjustment of production, distribution and marketing" but is to confine its activities to promoting co-operative marketing and to encouraging the "organization, improvement in methods and development of effective co-operative associations". The Board is also to make investigations and publish reports on land utilization, reclamation and irrigation, on marketing, developing by-products of agricultural commodities and on transportation conditions. The revolving fund is increased to five hundred million dollars and the proviso that half the fund must be earmarked for the stabilization fund is omitted. Similarly the provision that one of the uses of the fund should be to help co-operative associations etc. "in controlling a seasonal or year's total surplus" finds no place in the later bill, which speaks merely of assisting in the "effective merchandising of agricultural commodities and food products". More precise rules are laid down as to the grant of loans for "the construction or acquisition by purchase or lease of storage or other physical marketing facilities" and fuller treatment accorded to the formation of "producers controlled clearing house associations adapted to effecting the economic distribution" of particular agricultural commodities among the various markets. These associations may include in addition to co-operative associations, independent dealers, in, and handlers, distributors and processors of the commodity. The whole machinery of marketing agreements and of the equalization fee has been scrapped. There is substituted for it a system by which the co-operative associations are insured by the Board against loss through price decline in the agricultural commodity handled by the associations and produced by its members (Sec. 5). Agreements for such insurance shall only be entered into if "(1) coverage is not available from private agencies at reasonable rates, (2) the insurance will be in furtherance of the policy declared in section 1, and (3) the agricultural commodity is regularly traded in upon an exchange in sufficient volume to establish a recognized basic price for the market grades of the commodity and such exchange has accurate price records for the commodity covering a period of years of sufficient length to serve as a basis to calculate the risk and fix the premium for the insurance". The stabilization funds which under Sect. 10 (a) of the previous Bill were to be administered by the Farm Board are under the terms of the later Bill (Sec. 6) to be administered by "stabilization corporations" which the Board may, on the application of an advisory commodity committee, recognize for the commodity in question, if in its opinion the marketing situation makes such a measure advisable. The outstanding voting stock or membership interests may be owned only by co-operative associations handling the commodity. According to the same section the stabilization corporations may act as marketing agencies for their stock-holders or members, while the Federal Farm Board is authorized up on the request of the advisory commodity committees to make advances to the stabilization corporations to enable it to purchase, store, merchandise or otherwise dispose of the commodity. A stabilization corporation in receipt of such loans "shall exert every reasonable effort to avoid losses and to secure profits" but "shall not withhold any commodity from the domestic market if the prices thereof have become unduly enhanced, resulting in distress to domestic consumers".

The Commodity Councils which the Board was directed to create under the terms of the previous Bill are retained; they are however according to the second Bill to be set up by the co-operative association handling the particular commodity and not by the Farm Board as under the previous Bill. The co-operative associations must nevertheless select them in such manner as the Board shall prescribe.

Two members at least must be "experienced handlers or processors of the commodity" (Sect. 3). The powers of these Committees are however cut down; this follows, of course, necessarily from the fact that many of these powers were connected with the equalization fee which finds no place in the later project.

Turning to the text of the Bill as presented to the Senate on 18 April (S. 1-71st Congress, 1st Session) we find that it follows the lines of the 1927 Bill much more closely than does the Bill presented to the House which has just been considered. Thus it reproduces the title of the 1927 bill without any change or omission; it preserves the phrase "the control and disposition of the surplus of agricultural commodities" and as may be seen from the Declaration of Policy gives the same importance as the 1928 Bill to minimizing "price fluctuations by controlling any seasonal or year's total surplus". Again the clauses regarding the composition and powers of the Federal Farm Board are practically identical. The powers of the Commodity Advisory Councils with the significant exception of those relating to the equalization fee which has been dropped from this as from the House bill are the same. The Senate Bill follows the House bill in establishing Stabilization Corporations but grants them a far more important place in its scheme of farm relief. Thus it specifically contemplates action by the Corporations in controlling surplus of agricultural commodities and omits the express proviso contained in the House bill on withholding a commodity from the domestic market "if the prices thereof have become unduly enhanced resulting in distress to domestic consumers". Another difference consists in the fact that the Senate bill unlike the House bill empowers the stabilization corporations to market produce purchased from non-members as well as from members. At the same time it requires the corporations to keep an adequate reserve fund for the purpose of covering its operations. Not less than 75 per cent. of the annual profits of the corporation are to be paid into this fund unless, in the opinion of the Board, it is already adequate. The Farm Board may subscribe to the fund, but the "United States shall not be liable directly or indirectly with respect to the stock or membership interests issued by any stabilization corporation and all such certificates or membership interests shall so state on their face".

The most striking difference between the two measures now being discussed respectively by the House of Representatives and by the Senate of the United States lies in the much-discussed provision in the second document of "export debentures" (Sect. 10). The Senate bill proposes that the Secretary to the Treasury shall issue export debentures to farmers, co-operative associations, stabilization corporations etc. in respect of commodities or manufactured food products exported by them. These debentures will, on being presented to the customs officers within one year of the date of issue, be accepted "in payment of duties collectible against articles imported by the bearer". The value of each export debenture is to be computed by the Secretary of the Treasury at the debenture rate for the commodity or product in question. This attempt to revive the bounty on export although supported in the Senate, has met considerable opposition in the Lower House and is therefore unlikely to have any practical outcome. The fact that the measure for the establishment of a Farm Board as presented to the Lower House does not contain this provision will greatly facilitate its passage and enactment. At the same time the history of past attempts at farm relief legislation in the United States would counsel precaution in anticipating that even the calling of special session of Congress will result in the definite establishment of the Farm Relief Board.

An Act to establish a Federal Farm Board to aid in the orderly marketing and in the control and disposition of the surplus of agricultural commodities in inter-State and foreign commerce. S. 3555, 70th Congress, 5 December 1927.

A bill to establish a Federal Farm Board to promote the effective merchandising of agricultural commodities in interstate and foreign commerce and to place agriculture on a basis of equality with other industries. H. R. I. 71st Congress, 1st Session, 15 April 1929.

A Bill to establish a Federal Farm Board to aid in the orderly marketing and in the control and disposition of the surplus, of agricultural commodities in interstate and foreign commerce. S. 1, 71st Congress, 1st Session, 18 April, 1929.

Summary of Laws and Regulations.

UNITED STATES OF AMERICA. — Resolution (S. Res. 239) for an investigation into the decline in the per capita consumption of wheat. 5 January 1929. *United States Daily*, No. 258 (7 January 1929).

[The Secretaries of Agriculture and Commerce are called upon in this Resolution to investigate the decline in the per capita consumption of wheat from 5.6 bushels in 1913 to 4.3 bushels in 1926, and to determine among other things whether the bleaching of flour contributed to the decline].

CHILE. — Decreto número 4475. — Establece en cada comuna, una Junta permanente de informaciones agrícolas. 31 diciembre 1928. *Diario Oficial* n. 15,270 (11 enero 1929).

[The present Decree enacted in view of the necessity of establishing a continuous service of exact and precise data on the extent and the outlook of sowings and harvests, and in view of the impossibility of drawing up an agricultural census every year, establishes in each commune an Agricultural Information Board. This Board which is required to forward to the General Statistics Department exact data on the agricultural situation in its district, is composed of the Sub-prefect, the Mayor, the Head of Police of the Commune and of two farmers who own or lease a large agricultural property in the Commune. The information is to be supplied on forms drafted by the Statistical Department. The Board is also required to send to the "Fomento" Ministry, on the latter's request, forecasts on production, information on the progress of disease of live-stock, centres of infection etc.].

CHILE. — Ley número 4531. — Sobre Cooperativas Agrícolas. 14 enero 1929. *Diario Oficial*, n. 15,273 (15 enero 1929).

[The law defines as agricultural co-operative societies, societies with variable capital and unlimited membership constituted by agriculturists in accordance with the provisions of the present Law with one or more of the following objects: 1. the purchase or the acquisition by grant or by lease of lands or buildings to be used by the members for the purposes of agricultural exploitation; 2. the sale or loan to members of fertilizers, seeds, machines, implements, accessories, raw materials and other objects required by them in their business; 3. the production, sale or exportation in common of plant, animal or industrial products and the purchase of articles suitable for the economic objects of the society; 4. the establishment and conduct of factories and other installations for the transformation, purification or treatment of products supplied by the members or purchased by the society; 5. the provision of credit facilities for members of the credits necessary for their operations; 6. supplying members for consumption purposes with foodstuffs, medicines, objects of personal and domestic use which the society shall produce or manufacture itself or shall buy directly from wholesale producers or merchants; these activities are however merely to supplement the main purpose of the agricultural co-operative societies.

The capital of the co-operative society may consist of money, real or personal property, industrial or other products of the members.

Contributions not in the form of money shall be estimated at their cash value and expressed in the form of shares. Shares shall be to bearer, indivisible, of equal value, and may only be transferred with the approval of the Committee of the co-operative

society and according to the rules laid down in the Statutes. The minimum membership for the constitution of each Society is five, and no single member may own more than 20 % of the society's total capital. Members ceasing to be engaged in agriculture must resign from the society.

The Law grants several privileges to co-operative societies in particular a reduction in railway freight rates. This reduction in the case of products is 25 %, and in the case of machines, implements, reproducers, seeds and fertilizers is 50 %. The reductions are granted on the basis of special regulations, are calculated in inverse ratio to the weight and value of the articles.

The law in addition provides for the free grant by the State and municipalities of concessions of land or premises to co-operative societies. Again as regards credit the Law introduces several facilities in favour of co-operative societies, and *inter alia* authorizes the National Savings Bank, the Agricultural Credit Bank etc. to grant loans up to a total of 75 % of the value of the immoveables, livestock, installations, fruits and products pledged by the co-operative societies].

FRANCE. — Loi relative à l'apprentissage agricole. — 18 janvier 1929. *Journal Officiel*, n. 17 (20 janvier 1929).

[The general provisions concerning the nature and form of the apprenticeship contract laid down in Chapt. I of the First Book of the Labour Code are declared by this Law to be applicable to the agricultural apprenticeship contract, under the following reservations:— 1. Agricultural apprenticeship contracts may be lodged with notaries, clerks of justices of the peace, agricultural departmental offices and chambers of agriculture. 2. Each apprenticeship contract shall be registered in an apprenticeship booklet to be drawn up according to rules laid down in a decree of the Minister of Agriculture. 3. In drawing up the apprenticeship deed account must be taken of local custom and professional usage and in particular of the rules laid down by the central Committee and the departmental committees for agricultural apprenticeship. 4. The technical instruction which the master undertakes that the apprentice shall be given and which must be expressly mentioned in the apprenticeship contract may be imparted either on the farm itself by the head of the farm or in the institutions and classes set up in accordance with the provisions of the law of 2 August 1918 or in other technical agricultural institutions and classes which have, after consultation with the departmental agricultural apprenticeship committees been placed under the patronage of the Minister of Agriculture.

The law in addition contains measures regarding the examination of apprentices and the grant of certificates of apprenticeship and professional competence].

ITALY. — Legge n. 94. Disposizioni per la difesa delle piante coltivate a dei prodotti agrari dalle cause nemiche, e sui relativi servizi. 3 gennaio 1929. *Gazzetta Ufficiale*, n. 33 (8 febbraio 1929).

[Owners cultivating their own farms as well as directors of nurseries, and of establishments for seed preparation and selection and all persons trading in any manner in plants, parts of plants or seeds intended for cultivation must ask for a special license from the Prefect.

All establishments so licensed are subject to a periodical inspection by the police or by officials of the Ministry of National Economy. Products classed as infected cannot be placed on the market without having been subjected to the disinfection operations prescribed by the law. The partial or total destruction of any material declared dangerous by reason of infection may be ordered; in such cases there is no right to compensation.

Plants, parts of plants and seeds intended for cultivation shall only be allowed to circulate in the Kingdom provided they come from properly licensed nurseries, establishments etc. The hawking of plants, parts of plants and of seeds intended for cultivation is forbidden.

All owners engaged in direct cultivation, as well as directors of nurseries and horticultural establishments and persons engaged in any authorized activity must notify to the travelling schools of agriculture of the province the appearance of any disease or parasite the presence of which may harm crops.

The Minister of National Economy may, by a Decree, put an embargo on the importation into the Kingdom of plants, parts of plants and seeds, classified as infected, specify the frontier stations and ports by which such articles may be imported from abroad and prevent or put a temporary embargo on the exportation abroad or the transit

from an infected commune to any other commune, of any plant, part of a plant or seed. The officials of the Ministry of National Economy attached to the supervision service in stations, frontiers and ports have the right to order the disinfection or destruction of plants and seeds they consider infected. The same right exists in respect of packings and of all other objects capable of carrying infection. They may further forbid the exportation abroad of these articles if they consider this opportune in pursuance of the measures passed by the Ministry of National Economy.

The Ministry may also order the application of remedies against diseases of cultivated plants and the exercise of control measures against insects and other plant pests in cases where such action in order to be effective requires simultaneous and harmonious collaboration of all the interests concerned.

The Ministry may likewise order the establishment of consortia composed of land-owners and tenants in order to carry out measures for the protection of cultivated plants against disease, insects and other plant pests.

These consortia shall be required to organize, supervise and put into operation all the measures taken for plant protection.

The credit institutions established by the Royal Decree of 29 July 1927, are authorized to grant loans for a term of two years to the consortia for carrying out defence operations against plant diseases and pests.

The Ministry of National Economy may itself undertake control measures against locusts; it is under no obligation to give previous warning to the owners of infested land or to give compensation for loss sustained by such owners. The expenses of these operations must be paid, *pro rata*, by the State, the Provinces and the Communes. The Communes may make their contribution in the form of labour.

The Consultative Committee for Defence against Plant Diseases founded by the Royal Decree of 30 December 1923 shall be called "Committee of Defence against Plant Diseases". This Committee is presided over by the Minister of National Economy. It is required in addition, to exercise its optional advisory functions for the application of the present law, to study all problems arising out of the protection of cultivated plants and of agricultural products against diseases, parasites and all other risks.

All the various services connected with plant protection are placed under the phytopathological institutions, the phytopathological observatories, the Provincial Commissariats for Plant diseases and the testing laboratories].

Bills.

UNITED STATES OF AMERICA. — Bill (H. R. 16706) for the suppression of unfair and fraudulent practices in the marketing of perishable agricultural commodities. *United States Daily*, No. 288 (11 February 1929).

[In a letter approving this Bill, the Secretary for Agriculture states that "the highly perishable character of most of the fresh fruits and vegetables increases the opportunity for unfair conduct on the part of those handling them" and claims that the bill "presents a most, if not the most effective means of dealing with the evils sought to be corrected, such as unwarranted rejections by dealers and unfair and dishonest practices by those subject thereto". It is proposed to license "commission merchants, brokers and dealers buying and selling other than at retail" the commodities mentioned above].

UNION OF SOUTH AFRICA. — Live Stock Breeding Bill. 7 February 1929. *Union of South Africa Government Gazette Extraordinary*, No. 1759 (13 February 1929).

[This Bill provides for the registration and the periodical inspection of stallions, bulls and rams and for the castration and sterilization of any stallion bull or ram calculated to beget defective or inferior progeny, or affected by any disease or defect rendering it unsuitable for breeding purposes. It also prohibits the sale of any stallion, bull or ram unless certified fit for breeding purposes at least one month prior to such sale].

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D. С. РОЗЕНБЛУМ. — Земельное право Р. С. Ф. С. Р. — Госизд. Москва-Ленинград - 1928. (*D. S. Rosenblum. Agrarian Law of the Soviet Federal Socialist Republic of Russia. — Official Government Edition. Moscow-Leningrad, 1928, in-8, pp. 452*).

[The author who holds a Chair at the first State University of Moscow, states in the Preface to the second edition that this volume is based on lectures delivered

by him to students of law and economics. The principles informing this work are clearly set out in the Preface: "The present volume, dealing with a juridical theme, contains at the same time references to problems of a historical, economic and political character. Legal rules are the expression of a sharply defined social and economic reality; and not only at the moment of their creation, but during the whole length of their existence, their application in the Courts, in administration and in economic life, this reality influences their content. This principle, which holds good of bourgeois law, must be particularly emphasised in the case of Soviet law, which unfolds its activity in a State whose whole policy is directed towards the transformation of contemporary society into a socialist society. Soviet agrarian law can therefore only be understood in the light of agrarian policy and the soviet economic basic principles. The Revolution destroyed also the traditional juridical school in Russia and law is now merged in economics. "The concentration in the hands of the State of the country's principal means of production for the purposes of their economic exploitation by the State itself for the attainment of definite public purposes naturally does away with the very foundations of the traditional division of law into public and private. It is therefore more exact to speak of a regulation of legal relations on the lines of the main branches of the national economy . . .". Later on the writer states "We have a single body of law-economics full of a profound social and economic content which touches the very bases of the national economy". Law itself is divided into "industrial, agrarian, workmen's, civil-commercial (relations of exchange)", etc. corresponding to the various branches of this economy.

The greatest merit of the present work lies in the fact that the subject has been given its exact place in the whole legal system in force in Russia, and that it has been brought completely up to date (1928)... The reader is thus furnished with a precise and complete account of legislation up to the present day. The subject is attractively presented and the treatment is for the most part objective. The author cites a vast bibliography of sources. Prof. Rozenblum's work is thus of great value inasmuch as it sets forth the various tendencies and currents of thought which have animated and still animate Russia in the sphere of agriculture and of the establishment of a satisfactory land system. Noteworthy above all is the attempt to reconcile juridically the principle of "State ownership of the whole of the land" with the "unlimited user by citizens". The attempt often results in a contradiction; the "State property" tends to seem a legal fiction, while its whole effect is to inspire a number of sanctions such as that referred to in the rule that "sale, promise to sell, mortgage, etc. are prohibited. Persons guilty of such acts shall be deprived of their user of the land and are in addition subject to penal sanctions" (cf. Agrarian Code, art. 27)].

WENDELL HERBRUCK. — Forestalling, Regrating and Engrossing. *Michigan Law Review*. — University of Michigan, Vol. XXVII, No. 4, February 1929 (pp. 365-388).

[The writer quotes the authority of White C. J. for the statement that the origins of modern legislation against monopolies and combinations in restraint of trade are to be found in the old enactments against forestalling, regrating and engrossing. "Forestalling" in its earliest sense was merely an obstruction of the course of justice; it was only in the twelfth century or so that it came to mean stopping a man on the way to market and buying his merchandise from him. In 1266 the crime of forestalling is found mentioned for the first time in the statute books and we have several records of persons fined for this offence. Later the penalty was fixed at forfeiture of the goods forestalled (25 Ed. III, stat. 4, cap. 3). After a lapse of considerable time, a statute (5 & 6 Ed. VI, cap. 14) was passed defining forestalling, regrating and engrossing. The essential element of regrating is buying the necessities of life in a market with intention to re-sell them at a place four miles or less distant. When such intention is actually carried out the offence is known as "engrossing". By the beginning of the eighteenth century the law seems to have been allowed to lapse and under the influence of Adam Smith an Act (12 Geo. III cap. 71) was passed repealing many of the early statutes on the subject. This change of policy did not meet with the approval of the people or even of certain members of the Bench, such as Lord Kenyon, and prosecutions still continued under common law. The uncertain state of the law was, however, definitely remedied by 7 and 8 Vic. cap. 24 which abolished a large number of restrictive statutes and thus brought to an end many centuries of important trade legislation that . . . had denied economic recognition to the middleman"].

His Honour Mr. JUSTICE TUTE. — The Registration of Land in Palestine. *The Journal of Comparative Legislation and International Law*. — London. Third Series Vol. XI, Part I, February 1929, (pp. 42-51).

[The chief tenures in Palestine are (1) Mulk, which corresponds roughly to the English freehold; (2) Wakf, which is in theory tenure for charitable or pious purposes; (3) Mirie, or tenure of land which previous to the Land Code of 1858 belonged to the State. Sales and mortgages of mulk lands are registered by the Tapou or civil courts; in the case of wakf tenures registration is still effected in the sheria courts. Distinct from the above-mentioned registration, which is of rights only, we have in the assessments made for the purposes of the werko tax, a registration of liabilities. The writer advocates the formation of a register, based on the combined Tapou and werko records, which would constitute an absolute record of titles balanced by an absolute record of liabilities].

"LEGALIS" — Land Registration and its Advantages. *The Estate Magazine*, London, Vol. XXIX, No. 1 (January 1929), pp. 1-4.

[Registration Under the Land Registration Act, 1925 is limited at present to England and Wales and is compulsory in some countries and optional in others. The Act describes the various estates and interests which may be registered, the persons who are entitled to make application, and the four kinds of titles namely absolute, possessory, qualified, and good leasehold title which may be granted. The proprietor who receives a certificate has established once and for all and beyond question the exact right he enjoys in the property; third parties are able to rely on this title without need on further investigation, while the registered owner is authorized to make various dispositions of the land according as his certificate is framed].

"LEGALIS". — Some legal presumptions as affecting Owners and Occupiers of Land. *The Estate Magazine*, London, Vol. XXIX, No. 2 (February 1929), pp. 81-83.

[After considering judgments given in three cases by the Courts the writer concludes by saying that "the law assumes that an owner or occupier of land who has occasionally repaired a stile or a footway on his land has done so for his own convenience. This presumption can only be displaced by evidence that the liability to do such repairs exists *ratione tenuræ* — that it runs with the land as having existed from time beyond memory"].

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INTERNATIONAL REVIEW OF AGRICULTURE

PART II

MONTHLY BULLETIN

OF

AGRICULTURAL ECONOMICS AND SOCIOLOGY

FARM ECONOMICS

Farm Accountancy Results in Various Countries.

GERMANY. — The enquiry opened three years ago by the Committee for investigation of conditions of production and marketing in Germany (*Ausschuss zur Untersuchung der Erzeugungs- und -Absatzbedingungen der deutschen Wirtschaft*) is being continued by the Sub-Committee on Agriculture. A third volume containing farming results for the whole of German agriculture for the farming year 1926-27 has appeared. At the same time the results of an enquiry into the indebtedness and into the taxation charges on German farming have been published. For the last year under review the accountancy results of 3,153 farms are available, and the statistics of indebtedness cover 2,437 farms occupied by owners and 369 farms

TABLE I. — *Farms showing Loss or Gain during the Farming Years 1925-26 and 1926-27.*

Economic region	Number of farms	1925-26 Farms with		Number of farms	1926-27 Farms with	
		Net return(1) %	Loss %		Net gain %	Loss %
East Prussia	327	38	62	332	43	57
Silesia	460	62	38	545	47	53
North Germany	665	57	43	665	60	40
Central Germany	797	61	39	664	67	33
Northwest Germany	382	71	29	414	68	32
West Germany	46	70	30	117	76	24
Southwest Germany	96	64	36	110	63	37
Bavaria	278	47	53	331	53	47
Total	3,051	58	42	3,153	58	42

Economic region	Number of farms	1925-26 Farms with farming		Number of farms	1926-27 Farms with farming	
		surplus (2) %	loss %		surplus %	loss %
East Prussia	327	52	48	332	60	40
Silesia	460	73	27	545	62	38
North Germany	665	71	29	650	72	28
Central Germany	797	70	30	654	76	24
Northwest Germany	382	84	16	414	79	21
West Germany	46	76	24	117	87	13
Southwest Germany	96	78	22	110	79	21
Bavaria	278	55	45	331	59	41
Total	3,051	71	29	3,153	70	30

(1) Net return = farming surplus less the taxes and other charges on the farm.

(2) Farming surplus = farm returns less farming expenditure.

occupied by tenants. The nature and grouping of the results collected have already been dealt with in a previous article : the present note will be confined to a resumé of some of the most important of the relative figures.

The proportion of the farms showing loss is nearly the same in most of the returns, for Silesia a considerable percentage increase is noticeable while the variations in the returns of other regions are negligible, in other words, German agriculture is still in an extraordinarily unfavourable economic position although as compared with 1924-25 a small improvement may be observed.

The statistics of indebtedness reflect the immediate effects of the unsatisfactory farming results on the farmer's available capital for investment.

Since the farming surpluses have become so small that even if farming and household expenses are limited to the utmost they cannot be met out of current returns, the German farmer is obliged to realise more and more of the capital locked up in the farm. The degree of indebtedness varies according to the economic region and farming system. The conditions are most threatening in East Prussia and partially also in North Germany, where not infrequently the farms are mortgaged up to 100 per cent. and are face to face with forced sales. Silesia comes next, where the indebtedness varies between 30 and 70 per cent. of the value of the farm. The position of the farmer is somewhat better in Central Germany, South-western Germany, Bavaria, West Germany and to some extent also in Northwestern Germany, but even in these regions the proportion of indebtedness amounts to 20 to 50 per cent. of the total value. Within the economic regions it is where conditions are less favourable and there is more extensive cultivation that land and farming systems have usually the higher proportion of indebtedness. It is of interest to note the extent of new indebtedness in the different years; in the last year under report there was a relatively larger increase of the indebtedness than in the years 1925 and 1926; as compared with the situation in 1924 the debts of 1926-27 amounted to many times the sum named in the first year of return.

With this tendency there is necessarily an increase in the interest charges, and on the greater number of the farms the net return is not enough to cover the interest payments. The taxation per unit of area is in most cases less than in the previous year or at least does not fluctuate so sharply. It will be observed however that a reduction in the amount of the taxes must automatically follow on the marked decline in the amount of income.

Bavaria. — The Accountancy Office of the Bavarian Chamber of Agriculture publishes with the assistance of nine offices a statement of the accountancy results in agriculture for the farming year 1926-27. The work involved was that of reproduction of the details supplied by the farms, averages being taken for certain main groups. In the following tabular statement an attempt is made to show certain main results, at the same time classifying them and bringing them into connection with each other. The original report supplies data, under 87 heads, of conditions of production, capital owned, encumbrances or debts, distribution of crops on any farm, crop yields, farming receipts, farming expenditure, labour costs, total supplies and total expenditure and net return (apart from personal taxes).

Without wishing to draw any far-reaching conclusions, the following remarks may be made on the table here given.

The most unfavourable closure of accounts was that of the grazing farms, while the stock farms were the only type which made market deliveries; it is noticeable that labour costs were higher on the grazing farms than on the arable or forage crop farms. The latter occupy a middle position as regards amount of the net return.

TABLE II. — *Farm Accountancy Results in Bavaria for Farming Year 1926-27.*

Farming system	Size of farms (ha.)	Yield class (t)	Number of farms	per unit of land under cultivation R. U. (1)						Farms	
				Receipts from		Total supplies	Labour costs	Total expenditure	Net return	with net return %	without net return %
				Arable farming	Stock-breeding						
Cereal	5-20	11-14	29	149	241	580	251	574	+ 6	59	41
		15-17	36	92	198	493	263	498	— 5	44	56
		18-19	7	105	172	485	232	468	+ 17	72	28
	20-50	11-14	35	173	199	509	206	485	+ 24	60	40
		15-17	39	114	189	462	204	459	+ 3	55	45
		18-19	8	82	108	384	184	430	— 46	38	62
	over 50	11-14	8	182	194	524	204	503	+ 21	75	25
		15-17	7	189	213	571	190	539	+ 32	72	28
Fodder cultivation.	5-20	13-14	24	67	304	558	255	571	— 13	50	50
		15-17	54	38	270	484	243	523	— 39	33	67
		18-21	8	69	209	475	278	526	— 51	12	88
	20-50	11-14	24	76	273	493	214	473	+ 20	46	54
		15-17	40	60	266	490	210	512	— 22	45	55
		18-19	3	49	203	408	193	434	— 26	0	100
	over 50	13-14	6	108	246	464	179	499	— 35	50	50
		15-17	6	110	266	530	150	548	— 18	67	33
Grazing farms. . .	5-20	13-14	5	2	289	493	330	576	— 83	20	80
		15-16	17	2	306	502	270	547	— 45	35	65
	20-50	15-17	4	37	319	479	207	479	± 9	50	50

(1) 1 = Best yield class; 21 = most unfavourable.

(2) 1 Reichsmark was in 1926-27 approximately \$ 0.2380.

Taken absolutely the results of the cereal farming are only moderate although in comparison with the whole of the farms under report they are the best and in this case the farms of 20 to 50 hectares under cultivation seem to have the best conditions. Where there are sufficiently full results, the positive correlation between net return and yield class is regular.

Saxony and Anhalt. — The private accountancy office for the province of Saxony and Anhalt collects the results and information from the accounts of 400 farms and presents them in a carefully compiled report. These results are of special interest, because the majority of the farms under report are showing a recrudescence due to intensive sugar beet farming. The report reproduces 280 items for each farm of which the following main groups may be enumerated, *i. e.*, quantitative and qualitative conditions. Areas under cultivation and proportion of cultivation, head of live stock, machine equipment, crop yields, sale prices, market deliveries, quantities produced by the main branches of farming, farming receipts per area and their main sources, similarly also the farming outgoings, the total supplies, total expenditure, labour costs, farming results (net return, income), taxes and charges, proportion of capital and indebtedness. In addition to these data examples are also given for utilisation of accountancy results for the purpose of advising on farming questions; followed by a special investigation of the intensity and the earning capacity of the labour costs, and expenditure on artificial manures, the earning capacity of motorploughs, raising of general utility cattle and dairying.

Finally a separate chapter is given to the position as regards indebtedness of the rented farms.

The following general survey is an attempt to condense the main results for the farms as a whole into the smallest possible space.

TABLE III. — Farming results of the Farming Enterprises of the Provinces of Saxony and Anhalt.

Size in ¼ ha. of the area under cultivation *	Number of farms	Farming surplus per ¼ ha. of area under cultivation	Taxes and other charges per ¼ ha. of area under cultivation	Net income per ¼ ha. of area under cultivation	Personal expenditure per ¼ ha. of area under cultivation	Indebtedness in % of unit value
SUGAR BEET FARMS.						
20-200	70	30.9	15.9	17.7	35.4	24.38
200-400	74	34.4	16.1	13.7	31.2	31.0
400-800	29	33.7	16.7	7.8	21.5	29.26
over 800	7	20.2	13.9	4.8	15.1	17.08
average	180	31.7	15.3	13.3	29.3	28.54
Unit value per ¼ ha. of area under cultivation	660 R.M.					
POTATO FARMS.						
20-200	10	21.8	10.6	11.4	36.3	32.44
over 200	12	28.5	7.6	13.2	20.6	70.58
average	22	25.4	8.9	12.3	27.7	52.73
Unit value per ¼ ha. of area under cultivation	340 R.M.					
ROOT CROP FARMS.						
20-200	63	25.0	16.9	15.5	41.6	24.47
200-400	29	21.7	17.3	2.3	26.8	25.23
over 400	13	15.2	14.0	— 11.5	20.5	35.49
average	105	22.8	16.6	7.0	34.8	25.57
Unit value per ¼ ha. of area under cultivation	787 R.M.					
CEREAL FARMS.						
20-200	35	14.7	11.7	7.4	34.7	34.88
200-400	26	18.0	13.9	1.3	23.6	34.49
over 400	10	5.5	8.4	13.7	13.7	25.98
average	71	14.6	12.0	1.2	27.6	33.35
Unit value per ¼ ha. of area under cultivation	534 R.M.					
FODDER CROP FARMS.						
—	14	21.5	9.1	19.1	25.1	31.52
GRAZING FARMS.						
—	1	8.5	2.0	11.3	— (?)	— (?)
FARMS SUPPLYING DISTILLERIES.						
Average of all farms.	5	20.6	7.4	3.4	11.1	39.49
Unit value per ¼ ha. of area under cultivation	398	20.1	14.7	10.2	39.6	28.80
	639 R.M.					

Although we are here dealing with farms of a relatively high level of intensive cultivation and enjoying good natural conditions of production, the farming surpluses are only small relatively, and while the degree of indebtedness is still not very considerable, the net income (in a sense, the total "free" income, *i. e.* not encumbered with indebtedness) is not high enough in any of the groups to cover consumption expenditure, so that once again private capital has to be realised. The effects of the agricultural crisis are not yet fully felt in the other types of industry, the purchasing power of the rural population being maintained by means of fresh borrowing at a level which does not correspond to the size of the income, and hence the normal relations with the classes supplying commodities to agriculture is disturbed.

AUSTRIA (*Upper Austria*). — The Council of Agriculture for Upper Austria publishes its third report on earning capacity since the establishment of its accountancy office, which covers the year 1927. The report is based on material from 50 farms. The number of items is relatively too small to furnish representative figures for agriculture taken as a whole. There is an introductory statement on the conditions of farming (meteorological factors and price relations), then follow data relating to the means of production (amount and composition of the agricultural capital, proportion of cultivation and of the various crops, proportion of labour), the production capacity (gross return, cash receipts, market production and self-supply), the production costs (expenditure and production costs, cash outgoings, labour costs and board of hired labour) and finally also the farming results, net return, income, social income). The following table is a summary of the most interesting results.

TABLE IV. — *Accountancy Results in Upper Austria.*

	Plain	Hill country	Milling districts	Mountains	Small holders	All farms
Number of farms	14	13	14	4	5	50
Area in hectares	28.03	23.75	22.34	37.53	5.62	22.19
Types of cultivation in % :						
Arable	58.7	49.8	48.9	13.7	55.8	47.4
Pasture and meadow	22.7	31.3	25.8	26.9	34.2	26.8
Woodland	13.8	15.3	23.8	56.5	1.6	22.5
Other types	4.8	3.6	1.5	2.9	8.4	3.3
Capital engaged per ha. in schillings. (1)	3,341	3,097	2,071	1,718	4,025	2,715
Live-Stock capital per ha. in schillings .	273	324	233	125	494	261
Capital in pigs per ha. in schillings .	86	54	48	12	90	57
Farm expenditure per ha. in schillings including :	609	538	335	219	836	466
depreciations %	7.5	6.6	6.9	7.7	6.4	7.1
farm cost %	30.4	24.9	20.7	17.1	23.9	25.6
labour cost %	61.0	65.7	71.1	73.3	67.7	65.5
Gross return per ha. in schillings . . .	842	769	428	272	1,200	638
including :						
sales account %	21.0	17.1	18.5	9.9	8.8	18.4
cattle %	10.4	17.8	19.9	20.8	13.1	15.3
milk and dairy products %	20.5	17.9	18.1	23.4	35.2	20.1
pig-keeping %	20.4	18.7	16.7	11.0	13.6	18.3
fruit growing %	7.9	6.7	5.1	9.2	11.3	7.2
Market production in % of gross return	71.7	68.2	59.7	50.1	67.8	66.9
Net return per ha. in schillings . . .	233	231	93	53	364	172
Remuneration of farmers' labour per man per year in schillings	1,926	1,869	845	956	1,574	1,500
Consumption per head in schillings . .	1,245	1,208	876	1,118	1,033	1,117
Indebtedness in % of capital engaged .	4.3	10.3	8.4	0.7	21.6	7.3
Social income per hectare in sch. . .	635	608	342	220	949	497

(1) Schilling (1927) = 0.1406 to 0.1408 dollar.

The comparison of the figures with those of the previous year is only provisionally possible since of 50 farms making returns only 18 were included in the statistics of the previous year. It may be stated in general terms, that on these farms in spite of the proportional extent of the arable land, the gross return from the live stock farming constitutes more than half the total gross return. The importance of labour as a factor in the costs is also characteristic of these farms. The final economic result may be noted as good, in so far as the worker obtains on an average more for his work than is required for maintenance and at the same time the capital engaged yields an adequate interest, owing to the fact that a steady price situation is associated with relatively good crop figures. The indebtedness remains therefore on the whole stationary. The income conditions of agriculture are however at present only moderate both regarded absolutely and in comparison with the corresponding figures of other types of occupation.

Voralberg. — The accountancy office of the Voralberg Peasants' Chamber publishes its fourth report on studies of the earning capacity of the Voralberg farms in the farming year 1926-27 which had to be considerably shortened as compared with previous years. The report which contains the results of 45 farms gives information first on weather, crop yields, prices, capital relations, cash transactions (receipts of agriculture, outgoings, taxes), gross return, production costs, farming success (net return, agricultural income), consumption and savings (housekeeping costs, outgoings for private expenses, total income and expenditure); the course of the main results is graphically shown in an appendix. The comparison of the year under report with the foregoing year is not possible without qualification, because the composition of the farms making returns is altogether different, a fact which in view of the limited scope of the report has a doubly noticeable effect. In the first instance a decline of prices of livestock products contrasted with the stationary character of the price of crop products is noted. The natural crop yields are smaller in wheat and spelt than in the previous year; the root crops show a marked deficiency, while the rye and barley yields are higher than in the previous year, and the forage crop is somewhat less than that of 1925-26.

The following table gives a summary of the most important results contained in the report:

TABLE V. — *Accountancy Results of Voralberg Farms.*

	Valley Farms		Mountain Farms.		All Types
	Arable and grass farms	Pure grass farms	Pure grass farms	High Pasture farms	
Number of farms	10	9	9	18	45
Cultivation in % of total area:					
Permanent meadows	53	70	74	47	55
Cereals	13	1	—	—	4
Potatoes	2	3	1	—	3
Grasses sown for hay	12	4	1	1	5
Rough land for litter	13	12	16	10	12
Pasture land	2	9	8	42	20
Estate capital per ha. in schillings	4,235	5,864	4,262	3,070	4,396
Livestock capital per ha. (excl. wood land) in schillings	808	816	911	854	850
Gross return per ha. in schillings:					
Crop sales	130	60	14	13	57
Fruit growing	107	105	42	11	54
Cattle: herd increase	142	220	198	208	188
Milk and dairy products	361	290	304	321	328
Pig-keeping	255	108	104	86	143
Total gross return in schillings	1,261	1,049	819	743	946
Farming expenditure per ha. in schillings (Total)	1,167	1,036	667	596	829
including:					
Farming costs	424	258	202	160	258
Labour cost	595	631	387	359	466
Net return in % of capital engaged	3.81	— 0.13	2.35	2.39	2.27
Net return in % of capital engaged in 1925	4.00	— 1.35	0.92	1.70	2.48
Agricultural income per ha. in schillings	550	549	437	371	430
Social income per ha. in schillings	708	695	570	529	608
Total income per man's keep per day in schillings	—	—	—	—	3.56
Total consumption per head in schillings	—	—	—	—	3.08

(1) Includes the value of the soil, soil improvements, buildings and vegetation. — (2) One schilling was in 1927 worth 0.1408 dollars. The yield figures are generally speaking somewhat lower than the previous year, though the small difference may also be the result of a different arrangement of the material. Capital return and remuneration of farmers' work are still very small, but in consequence of the favourable ratio between assets and debts the income is high enough to cover the small consumption and in this way a fresh indebtedness is avoided.

SWITZERLAND. — With a view to the more prompt publication of the very important results which are obtained from the farm accounts, the Section for collection of returns of profit-earning capacity of the Swiss Peasants' Secretariate is undertaking to bring out its report in two parts. The principal results, gross returns, expenditure, net returns have already been published in a first part of which an account has already appeared in this Review. Part II now under consideration relates to the farming results of the farming year 1926-27 and begins with an account of the statistical methods employed in making returns. It contains results of much interest, such as cash transactions, housekeeping costs (also consumption in kind of certain main products), gross returns of the leading branches of farming, ratios of income and consumption, social income, yield value and unexhausted cultivation values, effect of the farming system and of the type of production on the farming results, capital ratios and finally also the most important coefficients of conversion are indicated.

The following table shows a number of the most important results :

TABLE VI. — *Swiss Farm Accountancy Results.*

	Small peasant farms	Small medium sized farms	Medium sized farms	Large medium sized farms	Large farms	All types
Number of farms	41	174	109	122	27	473
Areas farmed (incl. wood) hectares . . .	3,89	7.74	12.45	21.31	48.19	14.3
Distribution of receipts % :						
Stock farming	73	80	82	80	77	80
Arable and pasture farming	5	6	8	9	12	7
Fruit growing	7	7	7	5	3	6
Vine growing	11	3	—	1	1	3
Housekeeping costs per days board in francs (1)	2.50	2.56	2.58	2.8	2.83	2.64
Milk consumption per head per annum (litres)	467	452	500	487	527	480
Distribution of the gross return from stock-farming % :						
Cattle : herd increase	22	24	21	19	22	21
Calves for fattening	7	5	3	4	2	4
Milk and dairy products	49	50	55	58	54	55
Pig-keeping	15	13	15	14	17	14
Consumption expenditure per farm :						
1925 Fr.	4,803	5,072	5,873	7,024	10,483	5,917
1926 "	4,305	4,870	5,748	6,732	10,307	5,762
Variation in farmer's own capital apart from non-agricultural income :						
1925 Fr.	— 879	— 399	— 151	+ 276	— 1,534	— 282
1926 "	— 1,122	— 967	— 1,156	— 1,263	— 2,346	— 1,167
Social income per hectare	1,033	762	676	635	534	620
incl. farmers' income in % of the social income :						
1925	72	60	51	41	14	46
1926	67	54	45	33	22	40
Unexhausted values of farm per ha. Fr.	9,383	6,128	5,451	4,972	4,498	5,863
Crop value of farm per ha.	— 951	— 397	622	1,287	1,352	324

(1) Swiss franc (1926-27) = 0.1923-0.1922 dollars.

The importance of stockbreeding is at its maximum on the medium-sized farms. The income in the case of Swiss agriculture is so small, that there has to be encroachment on the farmer's own capital. The more unfavourable conditions as compared with the previous year are due to the fact that the share of the farmer's income in the social income has declined considerably. Comparison of the capital values and of the returns should make sufficiently clear that agriculture cannot attract further investment. In regard to the results relating to the different farming systems and types of production, it appears that with the exception of a small group,

only occurring sporadically, the main systems do not essentially differ as regards their economic result. The clover farms stand best, and next come the widely diffused three field rotation farms. The exclusively grass farms are in a less favourable position while net profits are no longer obtained as a rule from the farms of the Alpine regions and the Jura. Among the different types of production the fruit growing and vine growing farms come first, then come the farms where pig keeping is carried on on a large scale, next the majority of the dairy farms, and lastly the stock breeding farms of the Alpine regions.

SWEDEN. — Some particulars are available for the farming year 1927-28, which enable us to form an approximate idea of the general tendency of the results.

	1926-27	1927-28
Number of farms observed	68	53
Estate capital in crowns (1) per hectare	1,377	1,360
Gross return per ha. in crowns:		
Field products	113	99
Livestock products	230	231
Other products	30	29
Total gross return	373	359
Farming expenditure per hectare in crowns:		
Labour cost	170	169
Purchase of requirements	81	76
Upkeep and depreciations	41	41
Other costs	51	53
Total	343	339
Net return in crowns	30	20

The returns on capital, that is, the interest on the capital engaged represented by the net return, showed the following fluctuations in recent years:

	Net return in percentage of capital engaged	
	South Sweden	Central Sweden
	%	%
1923-27	3.3	2.4
1926-27	2.4	2.7
1927-28	2.2	2.0

Previous results thus indicated a slight decline in returns due principally to a drop in the gross return in field products. It may be generally established for Sweden that the agricultural crisis which has lasted for so many years, is reflected in the economic position of agriculture.

NETHERLANDS (*Friesland*). — The Central Co-operative *Landbouwboekhouding* in Friesland is able to publish results of 814 Friesian farms for the farming year 1927-28. Certain striking differences occur in respect to the accountancy data

(1) The Swedish crown in 1927-28 was worth 0.2674 to 0.2700 dollars.

of these returns compared with those already dealt with. The gross return does not contain either the money value of the provisions drawn from the housekeeping nor the rent of the dwelling house, in which the farmer's family live. On the side of costs the most important difference is that the value of the work of the occupier of the farm is not introduced into the costs, although the value of the work of the adult sons and daughters is shown. In the following table the most interesting results of the more important farming districts are summarised :

TABLE VII. — *Farm Accountancy Results of Friesian Farms.*

	Clay lands	Low Fen	Sandy lands	Clay land with mixed farming
Number of farms	233	124	155	312
Area farmed (ha.)	6,641	3,489	4,421	11,045
incl.:				
grass and pastureland	6,101	3,487	4,174	6,845
arable land	540	2	247	4,200
Average area of farm per ha.	29	28	28	35
Products per ha. arable land	(1) Gulden	Gulden	Gulden	Gulden
Milk receipts per ha. grassland	576	88	84	533
Net proceeds of stock per ha. grassland	343	322	272	317
Other receipts per ha. land farmed	127	120	138	148
Gross return per ha. of land farmed	17	16	16	15
Costs per ha. of land farmed:	496	458	408	506
Wages	102	76	77	145
Seeds	3	—	1	10
Fertilisers	17	14	20	36
Feedingstuffs	94	113	127	66
Other expenses	47	42	40	50
Total costs	263	245	265	307
"Free" income of the farmer per ha. of land farmed	232	213	140	199

(1) The Dutch Gulden was in 1927-27 equal to 0.4001 to 0.4043 dollars.

UNITED STATES OF AMERICA. — In the statistical appendix to the Yearbook of Agriculture (1927) published by the U. S Department of Agriculture a number of data, are given, obtained from the farm accountancy returns, or calculated from them. Table VIII (page 274) relates to the main results.

It is clear from this table that taking a general average the farming result of American agriculture is behind that of the previous year. The price disturbance may be attributed to the crop products (wheat, potatoes). Within the States very significant differences occur. The figures of return as calculated have only the character of relative figures, making possible a comparison of the different farming districts.

ESTONIA. — On the tenth anniversary of the establishment of the State of Estonia, the Central Bureau of Statistics at Reval published a "Statistical Album". The third volume which is devoted to agriculture contains certain data derived from farm accountancy results, which supply an approximate idea of the composition of the agricultural production. The most interesting data are shown in Table IX (page 274) which related to the farming year 1926-26.

The main characteristics of Estonian agriculture, deducible from the figures in the table are: the predominance of the medium sized farm, the relatively heavy charges on small farms due to buildings and implements, the leading place taken by stock farming as source of income and gross return and the relatively high proportion of the labour cost in the whole cost of production. The final

TABLE VIII. — *Farm Results of Farms in the U. S. A.*

	North Atlantic	East North Central	West North Central	South Atlantic	South Central	Western	United States	
	1926	1926	1926	1926	1926	1926	1925	1926
Number of reports	1,436	2,591	2,909	1,764	8,299	1,446	15,330	13,475
Size of farm (acres)	188	152	358	203	421	599	304	319
Value of farm real estate \$	9,385	13,827	19,879	9,252	9,904	10,091	14,157	13,179
Value of farm personality	8,203	2,846	4,188	1,684	1,949	4,012	2,965	2,929
Receipts: per farm:								
Crop sales	1,020	614	735	939	975	1,654	963	926
Sales of livestock	418	953	1,775	363	488	1,020	897	894
Sales of livestock products	1,442	770	516	291	253	690	585	589
Miscellaneous sales	79	35	38	33	24	50	76	39
Increase in farmer's own capital	251	148	—	56	239	319	396	160
Value of food produced used on farm	292	288	292	306	263	251	274	282
Total \$	3,502	2,808	3,396	1,988	2,242	3,984	3,221	2,990
Cash outlay:								
Hired labour	514	292	328	386	338	653	386	386
Livestock bought	180	281	401	121	180	284	242	242
Feed bought	498	206	314	124	114	245	244	232
Fertiliser	131	50	10	234	82	17	69	73
Seed	70	52	53	39	34	52	47	48
Taxes	171	208	245	122	121	240	191	183
Machinery and tools	130	122	191	65	91	187	119	130
Miscellaneous outlay	210	176	201	95	110	361	179	179
Spent on farm improvements	159	129	154	96	99	148	131	128
Decrease in farmer's own capital	—	—	88	—	—	—	—	—
Total \$	2,063	1,466	1,985	1,282	1,149	2,187	1,608	1,601
Receipts (net)	1,439	1,342	1,371	706	1,093	1,797	1,613	1,389
Value of farmer's labour	944	873	950	492	523	977	793	779
Net result	495	469	421	314	570	820	820	610
Interest paid	111	179	371	101	157	340	225	215
Result on own capital	384	290	50	213	413	480	595	395
Net result in percentage of total real estate	3.91	2.81	1.74	2.88	4.81	4.07	4.78	3.73

TABLE IX. — *Accountancy Results from Estonian Agriculture (1925-26).*

	Farms up to 20 ha.	Farms of from 20-30 ha.	Farms of from 20 to 60 ha.	Farms over 60 ha.	Average of all farms
Number of farms under report	24	58	100	26	208
Average size in ha	14.8	25.0	41.2	104.4	41.2
Capital engaged per ha. farmed in Mk. (1) 1000	58.2	43.3	37.5	37.8	41.5
Incl. in %:					
Capital in land	17.27	22.11	24.18	23.16	22.34
" buildings	40.47	33.53	28.92	31.95	32.47
" fruit trees	1.77	1.57	2.16	1.42	1.84
" forest trees	1.24	3.83	6.81	6.94	5.06
" live stock	13.65	14.12	14.54	11.88	13.97
" machines and tools	9.37	10.14	9.01	10.52	9.57
Debts	24.67	17.27	12.94	17.65	16.63
Total production per ha. in marks	20,541	13,430	11,444	9,637	12,822
Incl. (%) :					
field crops	25.70	27.27	26.03	25.42	26.27
livestock products	52.01	53.42	56.89	55.00	54.80
Receipts from stockbreeding in % of total receipts	72.81	74.59	76.97	73.06	75.12
Production costs per ha. farmed in marks	28,163	15,235	12,739	11,264	14,454
Depreciations	4.48	6.94	7.13	7.76	7.02
Farming costs	12.73	20.02	21.89	26.69	20.87
Labour costs	53.20	53.15	50.55	42.05	50.98
Interest charges	17.59	19.89	20.63	28.50	21.13
Net return per ha in marks	1,450	1,220	1,330	1,020	1,280
Net return in % of capital engaged	2.50	2.83	3.55	2.70	3.07
Difference of net return in % of gross return	— 16.18	— 18.07	— 15.53	— 18.41	— 16.19

(2) An Estonian mark was in 1925-26 equal to 0.0027 dollar.

economic result is small ; the prices should have been 16 per cent. higher to cover costs fully. The degree of indebtedness is highest with the small farms ; it is not however in itself a danger.

The general statement may be made that the purchasing power of agricultural production is fluctuating with few exceptions below the total index, so that the receipts are such that the value of the agricultural product is not enough to obtain in exchange the non-agricultural products required for the maintenance of the farming family and the upkeep of the farm, but that the farmer's own capital must be increasingly drawn upon. The degree of indebtedness is always increasing and in certain regions and countries is becoming dangerously high.

R. B.

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CREDIT

The New Agricultural Bank in Yugoslavia.

The economic situation of Yugoslavian agriculture may be best made clear through the following statement. Out of a total population estimated at 13,223,536 inhabitants in 1929, the proportion gaining their livelihood directly in agriculture and stock-breeding is 70.43 per cent. The national income is calculated for 1926 at a total sum of 80,101,950,000 dinars, divided among the different branches of the national wealth as follows (in percentages) :

	%
1. Agriculture and stock-breeding	39.42
2. Forest revenues	4.91
3. Fishing and revenue from mines and springs	1.23
4. Return from industry and buildings.	24.00
5. Return from trade, banks and means of communication	7.33
6. Derived revenues (services, liberal professions, incomes derived from investments, etc.)	13.11
Total revenue	100.00

Thus while agriculture and stock-breeding form the occupation of 70.43 per cent. of the population of the Kingdom of the Serbs, Croats and Slovenes, this section of the population receive only 39.42 per cent. of the total national revenue. At the same time, the returns from industry and buildings, in which 9.82 per cent. of the population earn their livelihood, absorb 24 per cent. of the total revenue, that is to say, 2.4 times more than would be assigned to this section of the population if a proportional division was made ; and that section which is employed in trade, in the banks and in the communication services receive three times this proportional share. Agriculture and stockbreeding accordingly secure the least return to their workers.

In the first years after the formation of the new Kingdom, a period of world inflation and shortage of supplies, a quantity of paper money came into the hands of the country dwellers but distrusting this form of wealth they set to work to purchase land at whatever price and borrowed money freely for the purpose. However, in 1923, the policy of deflation was begun in Yugoslavia. Thereupon all prices fell and in particular those of agricultural products. The small holder became aware of the heavy burden of his indebtedness and in particular of the burdensome conditions under which he had obtained credit. So as to remedy this state of affairs, a *Direction du Crédit Agricole* (1) was founded on 12 June 1925, an institution which was to receive from the State 500 million dinars and certain public funds ; these sums were to be made available for the peasants through the intermediary of their co-operative credit societies, the *Direction* acting as the central bank. This system worked well at first, and gave rise to great hopes. But the State was not in a position to place at the disposal of the *Direction* the sums indicated, and it received only about one fourth in all. Hence the whole organisation was doomed to stagnation. However as the credit needs increased in a very considerable degree in the

(1) See : Agricultural Credit Conditions in Yugoslavia. *International Review of Agriculture*, No. 9. September 1928, Rome, International Institute of Agriculture.

course of the recent years, this became a national problem of the first importance. The present Government has found itself obliged to undertake among its earliest labours the organisation of a powerful financial institution which will be able, not only by allocations from the State budget, but also from other resources, to procure the funds necessary for all the types of agricultural credit. It is thus that by the Law of 16 April 1929 the Privileged Agricultural Bank (*Privilegovana Agrarna Banka*) has been founded at Belgrade.

The Privileged Agricultural Bank is a limited share company with an initial capital of 300 million dinars divided into 600,000 shares of 500 dinars each. This capital may be later raised to one milliard dinars. The State is taking up shares to the value of 120 million dinars, and there will be a National Lottery which should bring in 20,000,000 dinars. For the remainder of the first issue, the priority is being given to the National Bank, to the State Mortgage Bank, to the Post Office Savings Bank, to the Agricultural co-operative societies and to the private financial establishments. If any shares remain over after the above institutions and establishments have subscribed they can be taken up by private individuals. The shares subscribed had on 22 June 1929 already reached a total of nearly 400 million dinars, and the definite closure of the subscription for shares was announced by the Belgrade press as for 15 July 1929, when it was anticipated that the probable total would be 500 million dinars (1).

The Bank operations are to be as follows: it will grant long or short term credits to farmers, as well as to co-operative organisations, to the rural communities and to similar institutions. Short term credits will be given on the bonds of agricultural organisations, by discount or rediscount of bills for less than one year, on pledge of agricultural products and by means of current accounts granted to the agricultural co-operative organisations on the basis of bonds or bills. For discounting or rediscounting of these bills it is essential as a rule to have two signatures, one of which must be that of an agricultural co-operative organisation. The Agricultural Bank may convert the bills of farmers lying at private banks, or in the hands of individuals. Long term credits may be granted to farmers only on the basis of pledges and of real property such as mortgages and only for the purchase of land, for the conversion of debts secured by pledges and by real property, for the construction of agricultural buildings, or for the execution of land improvements, but always only up to a sum which must not exceed 50 per cent. of the estimated value. Credits are granted to co-operative societies, to their organisations, etc., especially with the object of facilitating the trade in agricultural products and their exportation, as also with a view to the construction of warehouses of agricultural products, and for the organisation of the sale in common of agricultural products placed in these warehouses.

This Bank has the right to issue mortgage bonds on the basis of loans made on real property. The sum represented by bonds in circulation must not exceed the amount of the loans secured by mortgages. The bonds of the Bank, as also its shares, are to bearer. The Bank amortises its bonds by drawing in turn.

The funds necessary to the activity of the Bank are secured by the fact that it will be in a position to make use of credits at the National Bank, the State Mortgage Bank, the Post Office Savings Bank and also with private financial firms. In addition it receives the funds of the national economy already deposited at the State Mortgage Bank, such as the funds for the provision of seeds, those

(1) *Belgrade Zeitung*, Nos. 21 and 22, 30 June and 6 July 1929.

for the drainage of marshy lands in Croatia and Slavonia, hail insurance funds, etc. The Bank will take over the operations of the *Direction du Crédit Agricole* which is at the same time dissolved. The assets and liabilities of this institution pass over to the Agricultural Bank.

The receipts of the Bank, after deducting all working expenses, represent the net profits. From these profits there will be deducted first the necessary sum for the payment of a dividend of 6 per cent. on the shares other than those which will be assigned to the State or to the National Lottery; on the remainder of the profits a first charge will be made of at least 10 per cent. and of at most 20 per cent. for the endowment of the General Reserve Fund. The rest will be employed, in accordance with the decisions made, for the different objects indicated in art. 39 of the rules of the Bank.

This new Bank is privileged in the following sense. The State gives a guarantee: to shareholders, up to a dividend of 6 per cent.; for the repayment, in capital and interest, of the bonds issued by the Bank; and finally on the savings deposits entrusted to the Bank. The Bank shares and Bank bonds are regarded from all points of view as deeds having State value, and are exempt, equally with the coupons, from payment of all rates and taxes. The National Bank and the public financial institutions will accept these bonds and shares as cash and they will be accepted at all public banks as security for their full face value. This Bank also enjoys wide privileges from the point of view of the distraint of the goods of its debtors.

The Bank operations are directed by a Council of Management, by a supervisory committee and by a general meeting of shareholders. The Government will exercise the right of State inspection on the Bank by a commissioner who will be appointed by Royal Decree on the proposal of the Minister of Agriculture and after consultation with the President of the Council of Ministers.

The Privileged Agricultural Bank must be, by virtue alike of its organisation and of its objects, the main financial support of the public administration of Yugoslavia from the point of view of the development of agricultural production and the protection of the peasant farmer class.

M. T.

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Mortgage Notes issued by the Landowner under Mexican Agricultural Legislation.

The most striking of the reforms in the system of agricultural credit, brought into force by the Mexican Law of 10 February 1926 (1), is the power conferred on landowners to issue mortgage notes so as to collect the capital necessary for land development and agricultural improvement schemes which they are proposing

(1) Mexico: Constitution of the National Bank of Agricultural Credit and Establishment of the National Register. *International Review of Agriculture*, June 1927.

to carry into effect. In this Mexican law account is taken of the fact that issue of mortgage notes on the part of the National Bank of Agricultural Credit, by means of transformation of its undiscounted bills relating to loans made on real property, is conditioned by the possibility of negotiating these notes on the national or international market. It is further realised that the opening of this market is a matter involving much time and hard work for a new institution of agricultural credit, such as is the Bank ; while on the other hand it is urgently necessary to amass the capital required for the execution of land improvements and for the expenses of home colonisation. For this reason and with a view to tapping all available sources of capital, article 54 of the Law empowers the individual members of the regional or local agricultural credit societies to constitute mortgages on their property with the guarantee of the regional society or of the National Bank of Agricultural Credit. The guarantee in itself imposes on the body which guarantees the private issue the responsibility of seeing : that the whole sum loaned is invested by the borrower in work of parcelling and settlement of lands, of construction of permanent works of land improvement and of industries of transformation of agricultural products, or for other purposes regarded by the Bank as of equal importance ; that this sum does not exceed 80 per cent. of the cost of the work ; that the period over which the operations are to be carried out does not exceed 25 years, and that the borrower has the entire disposal of the amount of the loan made to him so long as investment for the agreed purposes actually does take place. The guaranteeing society or bank exercises in these respects the corresponding rights of inspection of the operations and over the books kept by the borrower.

Mortgage loans, thus constituted, equally with those constituted by agricultural credit institutions, may be rendered capable of distribution with the object of issuing bonds to order. These bonds, or warrant notes, represent the participation of each of the several holders in the mortgage credit in question.

The agreement for issue of mortgage notes must of course state : the number and face value of the notes ; the interest charged ; the period for which they are valid ; the conditions fixed for payment by amortisation ; the use that is to be made of the funds for the benefit of the land. These warrant notes are made on the same pattern as the notes issued by the Bank and by the credit societies.

Mortgages guaranteeing credits represented by notes issued by the landowner are subject to the Civil Code of the Federal District which recognises the principle of the possibility of distributing the mortgage and the representation by means of bonds to order of each separate holder, thus treating the mortgage agreement as principal and not as accessory, and on this account it authorises the establishment of mortgages capable of such distribution on a single estate with a borrower not indicated by name.

The holders of mortgage notes have naturally the right to take steps individually to obtain the payment of the interest or capital which is due to them, independently of the powers or functions of the institutions or societies guaranteeing the notes.

It is understood that the issue of the mortgage notes made by any person whatever in the same way as the issue of agricultural bank notes and other debentures, is entered in the Public Register of Agricultural Credit ; an arrangement which is one of the very important new departures introduced by the Mexican Law.

In virtue of this institution the farmer can issue notes for the exact amount of capital and no more than he can obtain by means of an ordinary mortgage loan, in accordance with the Law on agricultural credit ; and he is subject to the same conditions as regards investment, to the same liability to inspection, as he enjoys

in his capacity of acceptor of the same guarantee. But these private issues present direct advantages over issues of the notes of the Bank and the regional credit societies. In fact the farmer can issue his notes at a greater or less interest than that which he would pay for an ordinary mortgage loan, according to which he secures a credit which is larger or smaller according to the earning capacity of his farm.

The bonds or notes issued by the credit institutions are offered to the public in considerable quantities, but are somewhat difficult to negotiate, as the Mexican public is not accustomed to this kind of investment; on the other hand difficulties of a political and financial kind arise in their negotiation on foreign markets, and thus it is readily intelligible that the note issued by a landowner whose credit is good can be more easily negotiated.

In order to obtain signatures for the mortgage notes which he proposes to issue, the farmer applies to the same persons or institutions to which he would apply to obtain ordinary mortgage credit, but he may suggest special terms to them if he is without the necessary economic resources.

It is to be hoped that these private issues will succeed in replacing the earlier forms of credit with mortgage of Mexican capital resources, as these forms are more risky for the farmer, as well as being slow in operation, costly and troublesome.

By the passing of this law a step has thus been made in the direction of mobilisation and commercialisation of landed property.

In conclusion it may be remarked, as an indication of the importance and economic significance of the institution under review, that the Mexican law on agricultural credit introduces a new principle, that of the promotion of a better distribution of the land among the cultivators. This is the reason why the success of the reform resting as it does on the organisation of the farmers in regional and local credit societies, depends not so much upon the legislator and the instructions laid down for the societies as on private action in seconding the object of the new agrarian policy.

In general it is to be observed that the element of reform in this law is the organisation of corporate and co-operative bodies. Its object is to establish a close link between landed property rights and the social, financial system of liability, guarantee, compensation, which is set out in detail in the 110 articles relating to this credit system. It is confidently hoped that by these means a technical solution has been found of general value for the elimination of agrarian disputes and for hastening the advent of economic prosperity for the agriculturists (1).

E. F.

LAND SYSTEMS

Agrarian Reform in Lithuania.

The agrarian reform, one of the most important phenomena in the post-war economic situation, has given rise to a considerable literature in which descriptions are given of the new agrarian structure and the possibilities of rural development thereby created. Accordingly it seems probable that statesmen and men of science, as also those who take a practical interest in the agrarian transformation of the countries of Central and Eastern Europe, will approve of the publication here of a report of great

(1) See: Economic Conditions of the Agricultural Workers in Mexico. *International Review of Agricultural Economics*. January-March, 1926.

interest on the agrarian reform furnished by the Ministry of Agriculture of Lithuania, in reply to the enquiry undertaken by the International Institute of Agriculture on the agrarian reform, on the causes of this reform, on its juridical bases and on its economic and social consequences. Some preliminary remarks are being added with a view to giving a clearer idea of the position of Lithuania from the geographical, territorial and demographic point of view. Further certain facts and information have been added in notes, in each case indicating the source.

Situated on the north-west of Russia, Lithuania includes the former Russian province of Kovno, parts of the former Russian provinces of Suwalki and Vilna, as well as the territory of Memel. The countries adjacent are Latvia, Poland and Germany, and there is a short coast line on the Baltic.

Out of a total of 5,566,000 hectares of territorial area, 2,636,000 hectares, or 47.3 per cent., of land areas consist of cultivable land. 1,407,000 hectares, or 25.3 per cent., of natural meadows and pasturages, 885,000 ha., or 15.9, of forests and 638,000 ha., or 11.5 per cent. of other lands. According to the estimate for the end of 1925, the population of Lithuania was 2,229,876 inhabitants, or a density of 40.1 per km². According to the census of 17 September 1923, in which the territory of Kleipeda (Memel) was not included, out of a total population of 2,028,971 there was an urban population of 301,939, or 14.9 per cent. and a rural population of 1,726,037, or 85.1 per cent. At the same date, the population actually engaged in agriculture was 1,088,350 persons, including 1,021,453 or 93.85 per cent. engaged in agriculture properly so-called, 64,403 or 5.93 per cent. in cattle keeping, 1,947 or 0.18 per cent. in silviculture, 274, or 0.02 per cent., in market gardening and finally 273, or 0.02 per cent. in the cultivation of fruit trees.

I. --- CAUSES OF THE AGRARIAN REFORM.

At the time of the formation of the Lithuanian State, the Government of Lithuania found itself confronted with a series of questions of the first importance, among which were those having relation to the means of restoring the agriculture after the ruin of the war, the essentially agrarian character of the Lithuanian State giving these the first claim on the attention of the Government. The large farms, the owners of which had nearly all taken refuge in Russia, had considerably suffered during the war and the German occupation.

In 1918, about 35 per cent. of the cultivable lands on the large farms were lying fallow and for the most part what remained under cultivation was worked by the small tenants who had their own live stock. The medium sized or small farms undoubtedly suffered much less, as the owners had not abandoned them even during the actual fighting, and consequently it had been possible to protect them effectively against destruction. The owners of large estates on their return from Russia at the end of the war had nothing to live on themselves and could not contemplate any restoration of the destroyed farms, the less so that, owing to the diasastrous depreciation of the currency, no credit was obtainable for any phase of the economic life of the country. These land owners began to sell the lands, and to work the forests without however taking into account even the first requirements of silviculture. Their lands were frequently purchased not by cultivators but by speculators, as the former had not sufficient capital to become land owners. Landless peasants or peasants with insufficient land were numerous. The Russian Government at the time of its rule had endeavoured, in pursuance of its object of making the lands Russian which bordered on the confines of the former empire, to expel the local population from the soil, so as to proceed with the colonisation of the Lithuanian regions by a foreign (Russian) population introduced in their place.

The impossibility of purchasing land and the absence of developed industries resulted in a very considerable emigration of the inhabitants of Lithuania, reaching such a point that before the war the number of Lithuanian emigrants to North America amounted to nearly 30,000 each year. During and after the war, for different reasons, emigration was almost totally suspended, and it was from this cause that the number of landless peasants or of those with insufficient land for their needs increased in so large degree. This class of farmers has become more numerous precisely from the fact that the farm workers on the estates were forced, after the decay of the large farms, to seek for other means of existence. The Lithuanian Government, in the first years of the revival of the independent Republic, found itself confronted with a radical agrarian reform which seemed to become the more urgently necessary as it became essential to oppose the propagation of extreme views which threatened the independence of the newly formed State. The application for lands on the part of the peasants who were either without land or had not enough to support existence could only be satisfied at the expense of the large landed estates which obviously could not be kept up in view of the situation.

The parcelling out of the large landed estates in addition was a necessity for economic reasons connected with the agricultural production. In Lithuania owing to the damp climate and the fact of its geographical position so far north, live stock breeding is more remunerative than cereal growing; but the medium sized and small farms outdo the large farms in the production of meat, milk, eggs and products which require special attention. In addition the medium sized and small farms of Lithuania produce large quantities of flax (seed and fibre) for export, whereas this production is insignificant on the large farms. On the other hand, the cereals produced by the large farms have to be exported, in view of the fact that the urban population of Lithuania is only 15 per cent. of the total population. The competition, however, of other countries where the natural and economic conditions for the growing of cereals were more favourable than in Lithuania, even before the war rendered the returns of the large farms less remunerative. The economic situation of the large rural property in Lithuania, before the war, was such that 90 per cent. of the lands of the estates were burdened with debts, the total of which amounted on an average to 60 per cent. of the actual value of the estates. Taking into account, on the other hand, the destruction of the large farms in the course of the war, it is evident that the large landed property had inevitably to give way to small and medium-sized property. The object of the agrarian reform in Lithuania was accordingly to accelerate this procedure and to ensure its taking some form on the whole acceptable. Further, in order to encourage the development of the small and medium-sized farm it was essential to get rid of certain survivals of the former regime: and this is why the law on the agrarian reform also deals with the abolition of easements and of common pastures and the splitting up of the village lands into small independent holdings.

The object of the agrarian reform in Lithuania is thus twofold: 1. the assignment of lands to small landowners and to cultivators who were landless, and 2. the subdivision of the village lands into small independent holdings. From the point of view of agricultural production the second element in the agrarian reform is of very great importance, as tending to remove from the small and medium-sized farm the most serious cause of the low intensity of production. Moreover it should be noted that this subdivision affects 8400 villages with a total number of 150,000 landowners and an aggregate area of 1,600,000 hectares.

II. — LEGAL BASES OF THE AGRARIAN REFORM.

In accordance with the preamble of the Law on the agrarian reform passed on 14 November 1922, the objects of the reform were as follows : 1. to supply land to small land owners and to landless cultivators ; 2. to create conditions favourable to the development of agriculture and principally to the small and medium-sized rural holdings, and 3. to nationalise those forms of real property the working and upkeep of which can be better administered by the State than by private landowners.

The administrative organs for the execution of the agrarian reform are : the local committees (of the commune or district), the heads of the lands organisation of the district and the Central Land Office. The communal committee for agrarian reform consists of four members elected by the *Taryba* of the commune (the highest body in the municipality) and a chairman appointed by the Agrarian Reform Committee of the district. The communal committee carries out all the instructions given by the District Committee and by the head of the land organisation : it distributes, for example, the manure from the subdivided estate to the purchasers of the land, it arranges for the provisional assignment between the tenants, pending the subdivision proper, of lands under State management, it obtains and supplies to the District Agrarian Reform Committee information in regard to large estates which are being farmed without proper care and which should for that reason be parcelled out, apart from the pre-arranged scheme (7 and 8 of the Law) ; it makes a valuation under the presidency of a representative of the head of the Land organisation (*tvarkytojas*) of the trees on the lots for distribution, also of the buildings, the areas sown, etc. ; further, two members of the communal committee take part in the meetings of the District Committee, when the question is one of the alienation of estates lying within the limits of their communes, or one of the distribution of the land from expropriated estates.

All the work of a technical and administrative kind is done on the spot by the head of the District Land organisation (*tvarkytojas*) who is appointed by the Central Land Office. Every year a certain number of surveyors carry out in accordance with his instructions, a survey of the landed estates which are to be parcelled out, draw up on the spot the plans for parcelling out these estates into small lots and for carrying this distribution into effect ; they also execute the work of subdividing the village lands into small independent holdings and the works preliminary to the survey of the agricultural lands for the following year.

Side by side with the *tvarkytojas* two committees are active : the District Agrarian Reform Committee and the District Land Organisation Committee. The first consists of a chairman (the *tvarkytojas*) and members appointed by the District *Taryba* (the supreme body of the municipality). Its duties include : the expropriation of landed property for distribution, the distribution of the lands of these estates between Lithuanian citizens who have expressed a desire to take up land, the assignment of the loans granted by the State among the recipients of the plots of land, etc. The District Land Commission, consisting of a chairman (who must be a magistrate appointed by the District Court), of the *tvarkytojas*, of a representative of the *Valdyba* of the commune to which the land in question belongs, deals with the confirmation of schemes for parcelling the village lands into small independent holdings, the abolition of easements, hearing of complaints relating to the execution of the works in question, the ratification of schemes for making new roads and diversion of old roads, etc.

The Central Land Office is composed of its chief and two members : the Director of the Department of Agrarian Reform and that of the Department of Land

Organisation, all three appointed by the Ministry of Agriculture. The Central Land Office draws up the general plan of the work to be carried out in the course of the following year as regards the parcelling of the landed estates and the general agrarian organisation, ratifies the schemes of the District Agrarian Reform Committees as regards the expropriation of the landed estates and the distribution of their lands, as well as the assignment of the loans made to the recipients of plots; further, the Office hears complaints brought against the decisions of the committees relating to the questions referred to above. The offices of the heads of the district land organisation are directly under the Department for Agrarian Reform, which exercises a general supervision over their work, while the whole of the technical staff are under the same Department.

In close connection with this Department there is a Central Committee of Agrarian Organisation which confirms, in the second instance, the decisions of the District Land Organisation Committees already mentioned. This Central Committee consists of the following members: the president of the Kaunas District Court, a permanent member of the same Court, the Head of the Land Office, the Director of the Department of Agrarian Organisation and the President of the Administrative Council of the Chamber of Agriculture. From the decisions of the Central Committee an appeal may be made to the Supreme Court of the Republic. At the Central Office an accountancy department keeps up to date the accounts of the expropriated estates which are being administered by the State, as well as those passing into the hands of those benefiting by the expropriation. In addition, the same Department prepares the budget statement for the execution of the agrarian reform, distributes the loans made, appoints the employees of the Office, etc.

The Minister of Agriculture is the supreme administrative authority for the application of the agrarian reform.

The municipal councillors of the commune and district nominate the members of the communal and district agrarian reform committees, the election being carried out by all the inhabitants of the country in accordance with a law on "self-government" elections in force for the whole of the Republic. It is due to this arrangement that on the councils and on the committees mentioned there is so satisfactory a representation of all classes of the population. Before taking a decision relating to petitions addressed to it, the agrarian reform committee hears in public the verbal statements of the persons concerned.

Lands coming under the agrarian reform are of the following classes: (a) lands which are the property of the State; (b) entailed estates; (c) estates administered under a feudal title; (d) estates known as under *biens d'instructions* (estates confiscated by the Russian Government and sold to be converted into Russian property, in accordance with the special instructions issued by the Government); (e) estates of the former Bank of the Russian Peasants and also of the former Bank of the Russian Nobility; (f) lands which are the property of monasteries and other ecclesiastical foundations; (g) lands belonging to private owners, the extent of which exceeds the limit fixed by law, acquired by purchase, donation or bequest. On all lands coming under the agrarian reform a forced expropriation has been carried out, and for this purpose the following order has been observed: lands belonging to the State, entailed estates, estates *d'instructions*, feudal estates, lands bought (by the Russian Government) on especially favourable terms, lands belonging to the ecclesiastical institutions and lands of private owners. The lands of the six first classes were expropriated at one and the same time, while the lands of private owners were taken for the purposes of agrarian reform only subsequently, after taking account of

their farming condition, that is to say, the large rural estates which had been neglected were taken first, while the properly farmed estates have not yet come under expropriation and are being administered temporarily by their owners. The State forests are not touched by the agrarian reform, nor the lands belonging to the urban municipalities; these lands are farmed in accordance with the measures adopted by the executive bodies of the municipalities of these towns. On estates expropriated the easements and the ancient pasturage rights were done away with in the first instance, in accordance with the law relating to that point.

From the expropriated lands new holdings were constituted and the former holdings enlarged. The numerical ratio between the new holdings and the enlarged holdings is approximately 3 : 2. The plots of land were distributed in the first place to the cultivators who had very little land but whose fields were adjacent to the parcelled out estate, and the remaining area of the estate was allotted among the other applicants as indicated above. This preference given to the small holders of land is based on reasons of an economic kind, for the owners of the small holdings who own buildings and live stock are better able to cultivate the land assigned to them and to farm it to advantage without having recourse to State aid. In fact the installation on their plots of the labourers who formerly worked on the estate now parcelled out, as well as the settlement of landless ex-service men is much more difficult than that of the small holders, that is unless the State supplies assistance in the form of credits.

Plots of land are assigned to small holders whose fields as being situated in a village the land of which had already undergone parcelling into small independent holdings were conveniently near the parcelled out estate; as regards villages where the lands have not yet been parcelled, the lots are only assigned in the cases where the land of such villages is conveniently adjacent to the parcelled out estate. In the first case the plot of land assigned to the small holder is fitted on to his former holding, in the second case the village is parcelled into small independent holdings and the parcels of each cultivator are grouped into one lot of a single tenant, so as to make possible a more scientific cultivation.

The right of benefiting by the agrarian reform is not accorded to Lithuanian citizens who have been sentenced by the courts to loss of civil rights, either whole or partial, and certain other classes of criminals are also excluded. Land is distributed to persons possessing a right to allotment in the following order of precedence:

(a) farmers or their direct heirs, whose lands were expropriated in 1861 and were joined to the large landed estates or were confiscated by the former Russian Government after the revolt of 1863; (b) owners of small holdings whose fields are adjacent to the parcelled estate; (c) farm workers of the parcelled estate and the small tenants; (d) ex-service men who had volunteered for service in the Lithuanian army to defend the independence of Lithuania, men disabled in the war and the families of those who fell or who died of wounds; (e) any other ex-service men or peasants who are either completely landless or not adequately provided with it, rural artisans, workmen or employees from the towns, etc.

Village artisans (blacksmiths, wheelwrights, etc.) in cases where their occupation is not enough to ensure a livelihood, have received a plot of land on a title equivalent to that of landless cultivators and small landowners but the unit of allotment is lower, from one-half to two hectares. In addition to private persons plots of land have been assigned to: schools of agriculture, primary schools, model farms, and for purposes of intensive farming, to agricultural organisations, co-operative societies, etc.

Farm workers (farm servants) thrown out of work by the fact of the par-

celling of the estates have received lots of land : as regards aged farm hands who are past work the Ministry of Agriculture has granted them pensions, the total amount of which is fixed by law.

The area left to the owners is 80 hectares. The owner has the right of selecting this land and he can utilise or dispose of it as he may wish (apart from any State control). Beginning from 1927 estates of an area less than 150 hectares were not parcelled at all and estates of from 150 to 200 hectares were only parcelled to a limited extent and only as regards the area exceeding 150 hectares. Hence the limit of 150 hectares (below which there is no parcelling) has come to be established definitely. A bill amending the law on agrarian reform, recently drafted by the Ministry of Agriculture, provides that estates of an area less than 150 hectares cannot be parcelled ; in this way the legislation contemplates the 150 hectares limit in place of the 80 hectare limit. It may be noted that in addition to this reserve which is at the disposal of the landowners apart from any State control, areas of land (from 50 to 100 hectares) are leased for long periods and on favourable terms to large landowners who have the wish and the power to establish farms known as " production " farms, *i. e.* farms the object of which is the production of selected seeds and the breeding of pure breeds of live stock, such as are required for the small farm but which it is not in a position to undertake to produce itself. The owners in question are expected to sell each year to the peasants a certain quantity of selected seeds or animals of pure breeds. The sale prices of these products are not controlled but are fixed by market conditions.

Within the limits of the villages, the landless peasants receive from 8 to 20 hectares ; in the suburban zones this proportion is reduced by 30 to 60 per cent. In the exceptional cases in which the parcelled land is not sufficient to make it possible to supply all the farm workers of the parcelled estate with land, the law allows the distribution of small lots of 0.5 to 2 hectares. For the enlarged farm holdings a maximum area of 20 hectares has been fixed ; the minimum limit has not been decided, the land being apportioned in accordance with the amount of the reserve of land available. Since the work capacity of the family of persons benefiting is not a constant quantity, but varies from time to time and sometimes very rapidly, this factor is taken into account in the apportionment of lands only in a very general way, priority being given in the matter of acquiring lots of land and the largest lots being assigned to the largest families ; this distinction is not however one of capital importance.

The budgetary expenditure actually undertaken by the State for the execution of the agrarian reform amounted to the following sums (in *litas*): in 1922, 2,687,881 *litas*; 6,303,925 in 1924; 8,135,121 in 1925; 9,053,924 in 1926; 8,084,565 in 1927.

If the landowner does not own more than 200 hectares the land expropriated in a quantity less than 150 hectares is paid at the rate of the average market price. The owners of more than 200 hectares are compensated at the rate fixed by the Government. The compensation is covered by land bonds with interest at 5 per cent., issued under Treasury guarantee and negotiable with State institutions. The Treasury can amortise these at the face value of issue but only within the 36 years following the effective taking possession of the land by the State. The law relating to the compensation due to the land owners of estates expropriated is not drafted ; and accordingly the exact price per hectare to be paid by the State to owners of land expropriated for purposes of reform has not up to the present been fixed. Persons who have received land must pay to the State the purchase price of the

lands within 36 years; the annual instalments are payable starting from the 13th year following on the date of acceptance of the title to the land; the amount of the annual instalment due per hectare varies from 0.50 to 7 *litas* according to the fertility of the lands and their state of cultivation as well as according to the advantages of position.

The buildings on the lands expropriated by the State are also expropriated; but there is no expropriation of live stock or industrial plant, etc. In the event of buildings situated on expropriated lands being of good quality, the total of the indemnity for the land in question is increased correspondingly.

Settlers having received the definitive title to their lands have no right, till after the lapse of 10 years from the date of the transfer of the land, without the consent of the Central Office, to surrender the land, to lease it, or mortgage it, etc. so long as they have not paid the purchase price and repaid the loans. In the event of nonfulfilment of obligation the peasants' holdings may be sequestered; in this case the State enjoys right of priority over the other creditors.

The parcelling of the village lands into small independent holdings is the central feature of the land reform. The new law on agrarian organisation, which repeals the former Russian law on similar lines, can be used for carrying the agrarian reform into effect in so far as it deals with the apportionment of expropriated lands to landless peasants and to small holders. In the greater number of cases the re-parcelling or consolidation of the holdings is proceeded with on the initiative of the persons concerned, but in the event of its being necessary to do away with the boundary marks between two villages as the result of the re-parcelling of the lands of one of them, the lands of the second village may be re-parcelled even without the consent of the owners on the authorisation of the Minister of Agriculture. The consolidation of the holdings of a village becomes obligatory for the whole village in the event of at least one-third of the landowners of the village being agreed to effect the re-parcelling. This third is reckoned according to the number of persons concerned without taking into account the total area of the lands. The re-parcelling is carried out by the same body which undertakes the execution of the agrarian reform (the Land Organisation Department). The cost of re-parcelling of one hectare amounts to about 18 *litas*; the State receives from those persons interested in the re-parcelling operations a tax of a total of 3 *litas* per ha. The lands belonging to expropriated estates are sub-divided and re-parcelled at the expense of the State. This tax which falls on those interested on the re-parcelling of their lands being very small, State aid under the form of credit is not necessary, and the peasants have no difficulty in paying the sums due. The re-parcelling of the lands is in the majority of cases identical with the subdivision of the village lands into small independent holdings; at the time of this re-parcelling the majority of the inhabitants of the villages are obliged to transport the buildings of the former farm on to the new grouped holding.

For the area of the land finally re-parcelled the respective documents are prepared and preserved with all the material relating thereto in the archives of the Department of Land Organisation. The boundaries of the new holdings are fixed definitely on the spot by the survey limits. In the event of these limits disappearing or where there is a dispute between the owners the boundaries are established by decision of the court or by the land organisation committees, in accordance with the surveying data entered in the archives of the Department.

The peasants whose lands have been grouped receive the title of full ownership, without any limitation and can make use of these as they wish; in the case

of persons who have received land from the land reserve the restrictions mentioned above are applicable.

The lands of peasants living in the villages are parcelled into small independent holdings, and each landowner receives the land in a single lot. In virtue of the laws in force a minimum extent of 8 hectares of the peasant property must remain indivisible. Every Lithuanian citizen has the right to acquire an extent of land not exceeding 150 hectares.

After the death of the head of the family the property remains the property of all the heirs. This succession takes effect in accordance with the laws in force. The heirs may divide the holding between themselves, either in accordance with a private understanding or on the decision of a magistrate, but in this case the arrangement above mentioned must not be set aside. Either one of the heirs or several of them may become owners by compensating the others, either in cash or in kind, for the value, corresponding to the share which ought to come to them.

III. — RESULTS OF THE AGRARIAN REFORM.

Before the reform 3200 large landowners (approximate figures) owning more than 80 hectares held an area of land (not including forests) of 775,000 hectares; the area in the hands of large landowners holding on an average more than 500 hectares amounted to 350,000 ha. Up to 1 January 1928 a total area of 430,000 hectares has been expropriated for the purposes of the agrarian reform; in this way the area at present in the hands of the large landowners amounts to 345,000 hectares; on the other hand, an area of 72,000 hectares has been, up to 1 January 1928, distributed to 20,000 small holders; the number of holdings not exceeding 10 hectares amounted before the reform to 67,000 or to 31.3 per cent. of the aggregate of the agricultural holdings. In addition, 30,000 lots of land of a total area of 300,000 hectares have been up to the present distributed to landless peasants (1). At the present time the number of peasant holdings is approximately 245,000.

After the carrying out of the re-parcelling of the lands and of the parcelling out of the estates, the lands of a peasant farm are grouped into a single lot; in exceptional cases parcels of meadows and of woods belonging to the farm are separated and placed in isolated lots. The predominant form is that of an area of 15 to 30 hectares. The greater part of the tenants and of the farm workers after receiving the full title of ownership of the lots of land become independent farmers.

The execution of the agrarian reform has not yet been accomplished and it is not possible to give at the present time a definitive reply to the following question: Out of those persons connected with farming, how many in absolute figures and in percentage have benefited by the agrarian reform? According to information which has been collected with a view to the carrying into effect of the agrarian reform, the

(1) This agrarian reform resembles at certain points the Russian pre-war agrarian reform, which was the work of Minister Stolypin. It was a question of the abolition of the traditional form of utilising the lands in common: the Russian agrarian institution of the *mir* still persisted in many parts of Lithuania. The law on the agrarian reform has modified this state of things in anticipation of the parcelling out of estates and their apportionment between their co-owners. Up to 1 January 1928, a distribution had been effected of 1,510 village lands belonging to 31,680 persons; these lands now form 40,963 estates of a total area of 427,917 hectares. See: *Die Agrarumwälzungen in den Staaten Osteuropas*, *Osteuropäische Landwirtschaftszeitung*, No. 1, August 1924, Königsberg, p. 17 and *Industrial and Labour Information*, International Labour Office, No. 11, Geneva, 10 December 1928.

number of persons who have declared themselves desirous of receiving grants of land amounted to nearly 100,000, including 60,000 landless cultivators and 40,000 small holders ; up to the present time it has not been possible to satisfy more than half these applications.

With the parcelling out of the village lands into small independent holdings, the abolition of boundary furrows (*derayures*), isolated plots (*enclavements*) and the removal of easements and common pasturage rights, the conditions which formerly hindered the intensification of agriculture disappeared gradually. In addition, with the parcelling of the large estates and the increase in the number of medium-sized and small farm holdings, stock breeding tends to become more important and the area under forage crops and root crops tends to increase ; in this way conditions favourable for a more scientific system of rotation come about. On the other hand, the development of stock breeding increases the quantity of farm manure which can be employed for the cultivation of the fields ; as regards chemical fertilisers, there is a considerable increase in their utilisation from year to year, as may be judged from the following figures : the quantity of chemical fertilisers imported amounted (in thousands of metric tons) to : 23.4 in 1923, 52.4 in 1924, 67.2 in 1925, 61.9 in 1926 and 81.3 in 1927.

Drainage by means of open ditches of the excessively wet lands, belonging for the most part to peasants whose lands were already re-parcelled, is going on fairly rapidly, in spite of the deficiency in credit : in 1924 drainage was carried out over 2,980 hectares, in 1925 over 5,270, in 1926 over 8,960 and in 1927 over 14,550 hectares.

Comparing the areas sown in the different crops before the reform with the areas after the reform, the respective data for the years 1919-1921 cannot be taken into consideration, in view of the abnormal conditions at that time of Lithuanian agriculture, as the result of the war and the German occupation. As regards the pre-war time, the distribution of the cultivable areas in Lithuania may be illustrated by the following figures (in thousands of hectares) : areas sown in rye amounted to 552.4 ; in wheat to 81.7 ; in barley to 183.2 ; in oats to 317.2 ; in peas to 57.0 ; in flax to 55.2 ; in potatoes to 119.1 ; for the remaining crops no figures are available. The respective figures for the five-years average (1923-1927), leaving out of count the territory of Memel, where the law on agrarian reform has not been applied, are : rye 504.1, wheat 100.8, barley 191.1, oats 320.3, peas 66.0, flax 70.0, potatoes 143.3 (1).

The above figures make it possible to ascertain that the area sown in cereals mainly intended for the food supply of the nation has decreased whereas the area in flax and potatoes has increased. There appears to have been an extension of the areas under forage plants and root crops ; in 1927 the area sown in clover and other forage plants (386 thousand hectares) decreased as compared with 1926, but it had increased by 8.2 per cent. in comparison with 1925 and by 16.9 per cent. as compared with the five year average 1920-24.

With the growth of the number of small holdings and the development of stock breeding a prolongation of the season of agricultural activity has been noticeable. There is however no sign of any scientific organisation of farm work.

With the coming into force of the agrarian reform, the use of large machines (reapers, steam threshers, etc.) has diminished, while the use of small machines (winnowing machines, etc.) and of implements has increased. The farm machines

(1) In 1928 the area sown in flax was 96,000 ha. *International Crop Report and Agricultural Statistics*, International Institute of Agriculture. Rome No. 11, November 1928, pp. 387-388.

of a less complicated kind, such as threshers driven by horse power, winnowing machines, etc. are made in the country, while steam or petrol threshers, reapers, harvesters, etc. are imported. The figures for the import value of farm machines, expressed in thousand of *litas* and in percentages of the total importation are: in 1923, 3,108 (2 %); in 1924, 3,195 (1.55 %); in 1925, 2,361 (1.1 %); in 1926, 3,456 (1.6 %); in 1927, 3,615 (1.36 %).

As regards agricultural industries, there is a noticeable increase in the utilisation of the raw materials of the country, such as milk, meat, fibre, flax, fruit.

With the object of equipping the new holdings with buildings, the State places at their disposal the buildings of the parcelled estates; in addition it makes grants to the owners of the newly formed holdings of the timber at tariff prices, the payment to be made by instalments. For the purchase of live or dead stock, cash loans are made by the State. Up to the 1 January 1928 the total of the advances made by the State to the owners of the newly formed holdings amounted to: in seeds and in cash for the purchase of seeds (in *litas*) 3,554,814, in timber 9,065,903, in ready money for the construction of buildings 2,960,737, in cash for the purchase of live stock 12,691,192, in sown areas, buildings and trees (already on the lots for assignment) 8,594,801.

The sources of agricultural credit are: the Agrarian Bank of the State and the popular banks (private banks do not give credit to farmers) (1). The Agrarian Bank was founded by the Government (in 1924) on the lines of a limited company with a foundation capital of 30,000,000 *litas*. The popular banks are co-operative credit societies closely linked with their respective central banks. Their borrowed capital or working capital reserve consists of sums received from the Agrarian Bank (through their central banks) and of deposits. The Agrarian Bank grants loans to farmers against a mortgage pledge; the duration of the loans is usually from 3 to 5 years; the rate of interest, including the commission, amounts to 6 per cent. per annum, and if the actual expenses are added to this the rate amounts to 7 or 8 per cent. As the Agrarian Bank is not in any position to meet the credit needs of all the farmers of the country, the farmers make application for loans to the popular banks. These latter grant loans as a rule against pledges: the period for which the loans are granted varies from 3 to 9 months. When these banks grant loans on sums in deposit, they charge their members 18 to 20 per cent. interest; if sums received from the Agrarian Bank are loaned (through the central banks) then the rate of interest amounts to 10 to 12 per cent. per annum (2).

The State directly makes loans in cash and in kind to the holders of the new farm holdings. After having received the full title to ownership in the lands assigned to them the farmers can obtain loans from the Agrarian Bank and in exceptional cases also from the popular banks.

The average yields of the most important crops have diminished since the

(1) Up to 1922 the national economy was greatly affected by the constant depreciation of the German currency which circulated in Lithuania. From September 1922 a stable currency was introduced (1 *lita* = $\frac{1}{10}$ dollar). The immediate consequence of this however has been difficulties on the money market, and loss of capital which has gradually decreased with the consolidation of the national economy (See: BRENNEN, Dr.: Der Geld- und Kapital-Markt der baltischen Staaten. *Bank-Archiv*, No. 14, Berlin 15 April 1929).

(2) One of the most important problems of present day economic life is the conversion of short term mortgages at high interest, especially in agriculture, into long term easily negotiable loans. As it is usually the State which by these means finds credit for farmers, the work of effecting this conversion becomes noticeably easier. (*Ibidem*).

war. If however account is taken of the fact that with the development of stock breeding the quantity of farm manure utilised for cultivation is increasing, that the application of chemical fertilisers and the use of improved seeds is more extended, that the increasing cultivation of root crops and of leguminous crops is enriching the fertility of the soil, it is not assuming too much to suppose that in the future, especially when the difficulties of the time of transition in the execution of the agrarian reform have been overcome crop production will increase. As regards stock breeding products, the live stock of Lithuania, after having been much reduced in the course of the war, recovered and was equivalent in 1923, in numbers at least, to the pre-war head. With a view to breed improvement, the stock breeding societies have been formed and are active in Lithuania. The average yield of cows under test amounted: in 1924 to 73.6 kg. of butter fat, in 1925 to 82.1 kg., in 1926 to 82.2 kg. and in 1927 to 74.5 kg.; the maximum yield of cows under test was: in 1924, 162.2 kg. of butter fat; in 1925, 199.1 kg.; in 1926, 270.2 kg., and in 1927, 311.1 kg.

The more careful cultivation of the soil, the heavier manuring, the increasing use of selected seeds, the expansion of the activity of flax seed drying and fibre handling installations, the more scientific feeding of dairy stock, the extension of the activity of co-operative dairies, equipped with modern machines, the control of the export of flax and of butter have had as result the improvement in the quality of agricultural products.

Co-operative farming is not practised in Lithuania, and there is nothing to report in this direction.

In addition to the proportion (80 ha.) which cannot be touched and which the owner of the estate to be expropriated has the right to select himself, all the farm stock (live or dead) is also left to him. The owners of the parcelled out estates sold a part of the stock which had suffered considerable damage in the course of the war and from the after effects of the war in Lithuania and only kept for their own requirements the best part. At the present time the actual amount of stock per hectare on the part of the land remaining in possession of the original owner is greater than before the division of the estate. Now that these owners possess only a reduced area of land they make efforts to get the best value of each hectare of the land that remains to them; farming conditions — or in other words the increased amount of stock, live or dead, — are favourable to this. In this way the yield per hectare obtained from the part of the estate that remained with the original owner has considerably increased.

Official statistics on the return from agriculture and its relation to the national wealth are not available. With regard to calculations of a private kind, the results may be quoted of the calculations made in respect of this point by Prof. M. A. Ruka, assistant professor at the University of Kaunas (see: the monthly periodical "Lietuvos Ukis", Nos. 3-5, 1926). The gross return from agriculture (not reckoning forests) during the period 1923-25 amounted on the average yearly to 782.5 millions of *litas*; the yearly gross return of the whole national economy amounted for the same period to 1,266.9 million of *litas* per annum; accordingly the gross agricultural return is nearly 61.7 per cent. of the aggregate return of the national economy.

As no accountancy data are available we are not in a position to give an exact answer to the question: What proportion of the agricultural products is at present sold on the market by the peasant farm? In general terms it may be said that the peasant farm (up to 15 hectares in area) supplies to the market in the first place poultry and pig keeping products, a limited quantity of dairy

products (through the agency of the co-operative dairies) and a considerable quantity of flax seed and flax fibre; the farms of the average size of from 15 to 40 hectares supply to the market, in addition to the pig and poultry products, those of cattle keeping and a small quantity of cereals. According to approximate calculations of an unofficial kind these two classes of the peasant farm supply the market, taken together, with about 85 per cent. of the products of pig and poultry keeping and a nearly corresponding quantity of flax seed and flax fibre.

The statistics of the foreign pre-war trade of Lithuania are not available, as Lithuania was at that time a province of the former Russian Empire; the respective data for the period 1919 to 1922 are not comparable with those of the following period, in view of the abnormal political economic and financial position of the Lithuanian State during the period indicated. It is however possible to ascertain that the export of cereals — the cereal harvests being a very uncertain factor in Lithuania on account of the unfavourable weather conditions — fell off after the war, a fact which is partly explained by an increase in the consumption by the peasant classes and a decrease in the production of cereals owing to the parcelling out of the large estates. The export of linseed and of flax fibre and in particular of dairy products tends to increase (1). The growing export of butter is illustrated by the following figures: in 1923 the export of butter from Lithuania amounted to 1,610 quintals; in 1924 to 5,239; in 1925 to 9,323; in 1926 to 17,468; and in 1927 to 20,513 quintals. The total export of agricultural products (wheat being produced only for the internal requirements) amounted yearly during the period 1924 to 1926 to 170 million *litas* nearly, or 67 per cent. of the aggregate of all exports.

In proportion to the development of the agricultural co-operative movement, the importance of the co-operative societies in the domain of trade in agricultural products, a trade which before the war was entirely in the hands of dealers, is increasing from year to year; as regards the export of these products particularly, a considerable proportion of the dairy products export and of the meat export is undertaken by the co-operative societies, while that of flaxseed and flax fibre, eggs and live animals remains in the hands of the dealers.

For railings of dairy products and meat to a foreign destination, cold storage trucks increasingly are utilised by exporters: in the port of Klaipeda (Memel) the construction of a large slaughterhouse for pigs with modern cold storage equipment has been undertaken in the course of last year, the refrigerating plant being used for the purposes of export of butter as well as of meat. In addition in order to open up a more convenient route between Great Lithuania and the territory of Klaipeda, the construction of a railway line Siauliai-Klaipeda has been begun, and one section (the Amaliai-Telsiai) is already completed. Mention should also be made of a reduction in rates for the transport of agricultural products on the railways running to the port of Klaipeda and to the elevators. Finally considerable attention is being paid by the State to the construction of new main roads, especially such as converge on the railway stations, and the rural communes make it their business to provide for upkeep.

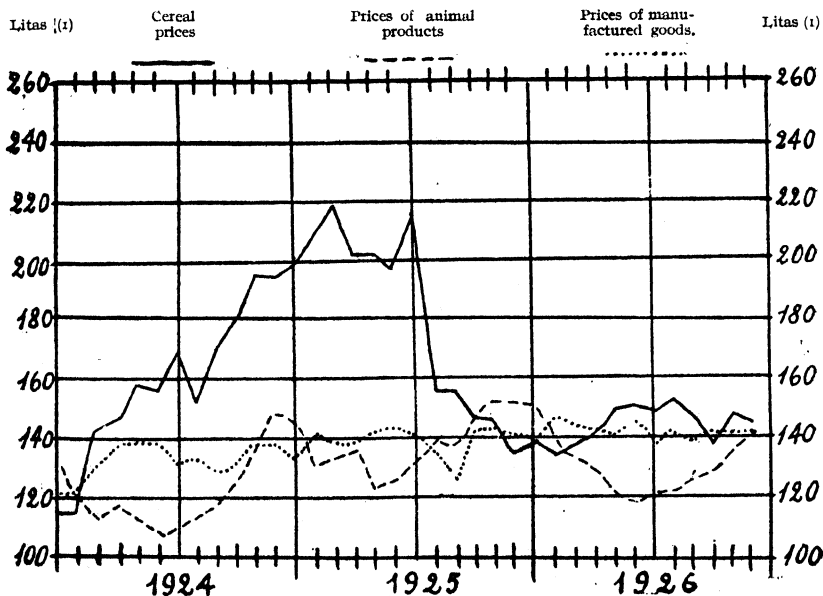
Two elevators were constructed in 1923-24, the one at Kaunas having a capacity of 4,200 metric tons, the other at Siauliai having a capacity of 3,000 tons.

(1) The export of linseed amounted in 1924 to 186,372 quintals and in 1927 to 250,190 quintals, that of flax fibre in the same years to 140,271 and 240,047 quintals, Lithuania thus coming, on the list of European countries which are exporters of flax, after France, the Netherlands and the U. S. S. R. (See: *International Yearbook of Agricultural Statistics*, International Institute of Agriculture, Rome, 1928, pp. 334-335 and 382-383).

The prices of agricultural products during the period 1919-1922 are not comparable with those of the following period. in view of the fact that during the period in question the currency then in circulation (the "ost-mark" introduced by the German authority) underwent fluctuations following the exchange variations of the German Mark; moreover, the freedom to trade in agricultural products was limited by requisitions for the purposes of supplies to the army and by prohibition of export. According to the calculations made by Prof. M. A. Rimka, assistant professor of the University of Kaunas (see the fortnightly periodical "Zemes Ukis" No. 1, 1927) the annual course of the price curves, taking the whole of Lithuania, during the years 1924-26 is illustrated by the diagram subjoined for the three groups of products; the first group includes the most important products of the soil, the second the most important animal products, and the third six industrial items (among which however machines and farm implements have not been considered owing to the relative statistics not being available). It must be remarked that it is the index-numbers for the groups in question which appear in the diagrams (average prices for 1913 = 100).

Prices of cereals, of animal products, and of manufactured goods from 1924 to 1926.

(1913 prices = 100)



(1) 1 Lita = 1 gold fr.

In certain regions of the country there is a surplus of rural population in the country districts, but during the season of field work the farm labourers pass from the regions in question to those where there is a scarcity of labour. It is for this reason that the consequences of the surplus mentioned do not make themselves felt from the point of view of the national economy, and in particular do not affect rents, and as a matter of fact there is almost no renting of farms in Lithuania. In

the conditions prevailing in Lithuania, and in view of the slight development of industry in the country and of the absence of large towns, emigration takes the place of the urban drift. As mentioned at the beginning of this memorandum the number of emigrants from Lithuania before the war was about 30,000 yearly. The result of the agrarian reform has been to strengthen small and medium-sized property and to reduce emigration. Nothing can be affirmed in regard to a return of the urban population to the land as a consequence of the agrarian reform.

The sick insurance provided for by the Law of Sick Insurance (Official Journal No. 227, 1926), is optional in the case of agricultural workers. Fire insurance is now to a large extent practised in the country, while hail insurance and live stock insurance is only very rarely practised. It may be added that this year the State Insurance Institute has organised live stock insurance.

The previous year steps were taken to organise farm accountancy in Lithuania by the institution of a Central Bureau of Farm Accountancy at the Kaunas Chamber of Agriculture.

As is shown by experience in the collection of the agricultural land tax, the amount of which varies from 1.50 to 9 *litas* per hectare, a sum amounting to nearly 99 per cent. of the sum assessed is actually paid yearly into the State Treasury.

Since the preliminary work for the carrying into effect of the agrarian reform has been undertaken and put through in a satisfactory manner, the execution of the work of the reform itself is going on fairly rapidly and the reform is on the whole taking shape along fairly favourable lines. Apart from small changes which have been made necessary by the requirements of life and by the practical carrying into effect of the reform, no important amendment has been made in the fundamental legislation.

The work of subdividing the village lands into small independent holdings will be effected, according to the probabilities, in from 8 to 10 years. As regards the parcelling of the large estates, it is believed that it will be accomplished in from one to two years, seeing that the area to be parcelled has diminished as a result of the extension of the proportion that cannot be touched, which is now 150 hectares.

As a result of the execution of the agrarian reform the majority of the cultivators who were completely landless and the majority of the agricultural workers whose circumstances were deplorable, form at the present time an independent element from the economic point of view ; and as this goes on, a more active participation in the political life of the country is observed as well as in the work of the raising of the general standard of civilised life. As regards the improvement of the standard of living of the rural family, the economic conditions of the owners of new farms and of the farms which have been enlarged are already at the present time better than they were before the reform ; a still more considerable progress is to be anticipated in this respect for the future when the difficulties have been overcome which surround the first steps in the equipment of the farm holdings (construction of buildings, purchase of live stock, etc.).

It may be affirmed that the class of holders of small and medium-sized farms the ranks of which have been filled up, thanks to the agrarian reform, by a worker element alike capable and attached to the soil, is an important factor in the social stability of the national economy.

MARKETING OF AGRICULTURAL PRODUCE

Rationalisation Experiments on the Wheat Market in France.

Without touching on the question of customs dues, which seem to fall outside our sphere, there is everywhere to be seen faulty organisation in the exchange of agricultural products. This is mainly true for the wheat which forms the basis of

the nourishment of all the European population and of that of many other countries.

The want of cohesion and the individualism of the growers in the European countries of ancient civilisation are the main causes in this defective organisation.

The first step should thus be the grouping of the producers. This has already been accomplished in certain countries by means of State intervention, as has been the case in Italy, or freely realised by private initiative, for example in France and in Canada.

For a very long time agriculture held itself also aloof from all contact with trade, each farm living on its own resources, and exploiting them all, producing its own bread, its oil, the woollen and line goods required for its inhabitants. But experience has proved that this form of economy is incompatible with modern life and that to resolve to live in this way is to condemn oneself to extinction.

At the present day, the farmer who makes his appearance in isolation on the market condemns himself to be mulcted of a part of the fruits of his toil. Accordingly growers' associations have been formed.

Among the earliest and the most active there may be mentioned the *Association des Producteurs de Blé* the chairman of which is M. Rémond. This association has frequently done much to stabilise prices and to safeguard producers. The bulletin of the Association is among the best informed of such publications, and the work done through the press has hastened certain important changes in the wheat market in France. As regards wheat the first step consisted in obtaining the payment for the wheat in accordance with the weight of flour which it yields. Once this was established the second step was to arrive at a price which should take account of the quality of this flour, this quality being judged by the quality of the bread made from it. Hence it is the bread making qualities which are of interest.

The sale of wheat in specific weight has already become the commercial practice in many regions, and it must be recognised that it seems to make progress in France.

It was in 1926 that the *Association des Producteurs de Blé* established in agreement with the *Association Nationale de la Meunerie française* and the *Syndicat de l'Industrie Meunière Parisienne*, a sliding scale of prices proportional to the density of the wheat.

A base has been selected of 75 kg. per hectolitre. But this basis was not maintained in 1927 on account of the damp conditions which prevailed in the greater part of France during the summer. As the moist wheats weighed less for the same volume, the base weight had to be lowered. The new basis was 74 kg. per hectolitre.

Allowance for excess

74 kg. 001 to 75 kg. inclusive	+ 1 fr. 50 %
75 " 001 to 76 "	+ 3 fr. 50 %
76 " 001 to 77 "	+ 5 fr. %

Allowance for defect

73 kg. 999 to 73 inclusive	— 1 fr. 50 %
72 " 999 to 72 "	— 4 fr. %
71 " 999 to 71 "	— 6 fr. 50 %

This is an effort which it would seem should be regarded as a step in advance, since it tends to remunerate the producer according to the services which he renders to society. But although there has been some advance made on the methods employed up to the present, there remains still much to be done. The corn dealers pay more dearly for the foreign wheats than for the home wheats, the difference being as much as 5 francs per quintal in favour of the dry wheats rich in gluten such as the wheats of Australia and the Argentine which at present the miller is *obliged* to use in blending.

This is to be explained as a consequence of their greater bakery value. In fact, it is observed that the wheats known as high yielding wheats produced by selection in the western countries of Europe during these last years, are wheats of high starch content but low content in gluten. So much so that the point is soon reached when the flour of home wheats employed without blending will give a very poor bread or at least the difficulties of breadmaking will be much increased.

Sale of wheat taking into account the baking value. — If the content in nitrogenous matter were the index of the baking strength, the problem would be easy to resolve. Having adopted the sliding scale according to which the price is proportionate to the density, subdivisions may be made under each density in which the price paid for the grain will be proportional to its content in gluten.

This gluten is not however of a simple character, and the weight of the nitrogenous substances contained in a flour can give no idea of the bread which can be made from the flour, as there is also the factor of the "quality" of the gluten.

The consumer demands a bread of good external appearance, well risen and well baked, and it is in the end his opinion which is of importance. The hygienist tells us that the opinion of the consumer is formed without reference to the nutritive value of the product. The consumer is in fact frequently little aware of such questions and not at all interested in them.

The qualities he looks for in bread may now be examined omitting the final one, *viz.*, the actual *baking* which it is within the power of the supplier to vary at pleasure or nearly so, in view of the improvements now made in the technique of ovens.

The good appearance and the rising of the dough depend, if all proportions between water, flour and salt are properly observed, on the diastatic value of the yeast culture, its age, its vitality or vigour, the conditions of temperature, moisture and pressure under which the yeast acts on the protein substances.

Once these conditions are fulfilled, *ceteris paribus*, flours of the same nitrogenous content give different results in accordance with the swelling index, the plasticity, the resistance to breaking and other qualities of a technical kind into which it is unnecessary to enter here.

These physical qualities form the criteria for judging of other products, building materials, cements and concrete for example; and it is of interest to recognise these constants as giving resistance to materials.

An apparatus was obviously required for calculating these particulars in relation to dough. It has been constructed by M. Marcel Chopin in collaboration with MM. Jacques and Roger de Vilmorin. It makes possible the measurement of these qualities, and will thus render good service to wheat breeders who when they have succeeded in producing a kg. of seed of a given variety, will be able to give information on the qualities of the nitrogenous substances which it contains. These once known, it will only remain to introduce into trading practices the idea of *quality* of the nitrogenous substances as there has already been introduced that of the density of the wheat.

This will undoubtedly be the work of time, since in trade circles established usages are tenacious of existence. But even if unsuccessful in achieving reform, those who know the facts will at least have the satisfaction of having made their contribution in pointing out the inequity of the practices in force and may possibly have helped to shorten their duration.

H. M.

AGRICULTURAL LEGISLATION

Summary of Laws and Regulations.

BELGIUM. — Loi relative à la protection des animaux. — 22 mars 1929. — *Moniteur Belge*, n. 88, (29 mars 1929).

[In pursuance of the Law of 22 March 1929, relating to protection of animals, persons found guilty of cruelty towards, or bad treatment of, animals, and anyone keeping a blind singing bird, will be imprisoned and fined. The same applies to persons organising fights between animals. The Government is regulating the methods of transport and slaughter of cattle and of harness and saddle animals. Experiments in vivisection practised with a view to research or demonstration of acquired knowledge may only take place in University laboratories, or in similar institutions indicated by royal decree].

DANEMARK. — Lov vedrørende Grundforbedringsarbejder. — 22 December 1928. — *Lovtidenden A.*, No. 41 (28 December 1928). Lov om Grundforbedringslaan. — 22 December 1928. — *Lovtidenden A.*, No. 42 (9 Januar 1929).

[Two laws of 22 December 1928 on loans intended for land improvement authorise the district administrators to assume the guarantee of loans earmarked for land improvement works. The district administration gives its guarantee in cases where the proposed works meet with its approval and where the owner of the land offers sufficient security for repayment. It must also keep account of the economic situation of the landowner. Before giving its guarantee the district administration must obtain a report from experts with regard to the possibility of effecting the intended improvements, and these experts must also approve of the estimate of the expenses of these improvements. A declaration in writing is also required from the lender certifying that the amount of money necessary for the specified plan is available for the borrower, under the prescribed conditions. The money lent is repayed in instalments by means of yearly payments equivalent to a tenth of the price. The district administration can, if circumstances justify, allow suspension of payment during the first five years. In guaranteeing the loans the mortgages are levied on the property, with right of cultivation. The borrower is bound to submit to the district administration accounts of the costs of the works effected. The State treasury will grant to the district an indemnity equivalent to one half of any losses incurred as a result of the guarantees furnished.

The Minister of Agriculture is authorised to appropriate 1 million crowns each financial year (1929-30, 1930-31, and 1931-32) for improvements on the land (works of draining and irrigation, damming, etc.). The loans which must not exceed 4000 crowns, are granted in cash at the rate of 5 %, which may be increased or reduced by yearly financial enactments].

FINLAND. — N:o 79. Statsrådets beslut, innefattande reglemente för statens spannmålsförråd. — 7 Februari. 1929 — *Finlands Författningssamling*, N:o 78-79 (20 Februari 1929).

A resolution of 7 February 1929 passed by the State Council, introduces regulations for ensuring an adequate supply of cereals; the application of these regulations is entrusted to a special board. The duties of this board include:

- (1) buying cereals on behalf of the State;
- (2) taking measures for ensilage, and the supervision of the stocks acquired;
- (3) providing for the needs of the army and other State institutions and the checking of the accounts registers;
- (4) the drawing up of budgets and the drafting of reports, on its activities, to be submitted to the Minister of Agriculture;
- (5) keeping itself informed on all questions concerning the production, selection and marketing of cereals and the fluctuations of prices which concern them.

Cereals bought for State supply must be of national production unless the minister of agriculture has disposed otherwise. Any disputes which should arise on the subject of contracts drawn up by the board of cereal supply are to be submitted to the Tribunal of Arbitration].

FINLAND. — N:o 100. Lantbruksministeriets beslut, innefattande reglemente för användning av anslag, som beviljas för understödjande av mönsterhushåll för småbrukare. — 28 Februari 1929. — *Finlands Förhållningssamling*, N:o 95-100 (7 Mars 1929).

A resolution of 28 February 1929 passed by the Minister of Agriculture introduces regulations concerning the employment of subsidies granted by the State to model farms belonging to small agriculturists. According to this resolution, no agricultural farm may be considered a model farm unless it satisfies the following conditions: (1) that the proprietor should have a good character; (2) that his chief income should be derived from agricultural farming; (3) that his economic condition should be regulated in a satisfactory manner; (4) that his registers for stock control and cultivation should show clearly the results obtained; (5) that his farm should be so situated as to be easily accessible. The State subsidies to these model farms are granted on the representation of professional organizations approved of by the agricultural administration. The money granted must be used for land improvement works, the acquisition of sires and for all such measures calculated to improve and augment the returns of the farm.

The subsidies are granted at the maximum rate of 50 % of the total estimated costs and as premiums; the borrower must give guarantee for the repayment of the sum and the interest accruing, unless there is a stipulation to the contrary.

The Associations of Agriculture and Rural Economy as well as the Associations of small farmers, must bring to the notice of the proprietors concerned the fact that the holdings are eligible for a state subsidy, and must with this object give all possible information on works of improvement that might be executed on their respective holdings].

ITALY. — Regio decreto n. 3433. Ordinamento delle Cattedre ambulanti di agricoltura. — 6 dicembre 1928. — *Gazzetta Ufficiale*, n. 50 (28 febbraio 1929).

[The Decree of 6 December 1928, No. 3433 provides for the organization of travelling lectureships of agriculture. These institutions which are corporate bodies possessing legal status are established in the chief town of every province and may have special local sections. Their chief aim is the diffusion of technical instruction among agriculturists by means of conferences, courses, consultations and publications, etc. Their financial resources are provided by special consortia set up for that purpose by the State, the provinces, and the provincial Councils of Economy. Each travelling lectureship is administered by a council whose members are representatives of the provincial government, of the provincial economic councils and of the commune. The work of the travelling lectureship is established by their statutes. The director of the travelling lectureship and the head of each section are appointed after a public competition].

ITALY. — Regio decreto n. 274. Regolamento per la professione di geometra. — 11 febbraio 1929. — *Gazzetta Ufficiale*, n. 63 (15 marzo 1929).

[The Royal Decree of 11 February 1929, No. 274 contains the regulations concerning the profession of land surveyor. In accordance with this decree the title of land surveyor appertains to all such as have obtained a diploma in that subject at a State technical institute. Land surveyors whose conditions are the same as those provided for by the present Decree may apply for admission into the legally recognised syndical association of land surveyors of the district in which they are domiciled. A committee of 5 to 7 members elected from among the members of the association draw up and publish a list of the land surveyors who should register themselves with the Court of Appeal and the Tribunal of the district concerned, the Public Minister, the Provincial economic councils and the Secretary of the central commission. The decree provides for those who are not entitled to inclusion on the list and for cases giving rise to cancellation from it. The committee, which exercises disciplinary power over its associates, can award penalties based upon a proper judgement. Appeals may be made to the central commission of engineers and architects against the decisions of the committee. Art. 16 of the decree determines, in detail, the limits of the professional exercise of land surveyors in order to distinguish it from that of engineers.

The syndical association has the right of preventing the irregular use of the title of land-surveyor and also the irregular exercise of functions ; it must also establish the scale of salaries and fix the amounts which must be contributed to defray the expenses incurred in drawing up the list. The above-mentioned committee is under the supervision of the Minister of Justice].

UNION OF SOVIET SOCIALIST REPUBLICS. — Decree of the Central Executive Committee concerning spurious co-operative societies — 28 December 1928, *Sobranie Zakonoff i Rasporadjennii*, No 3 (18 January 1929).

[The capitalist elements (*Kulaki*) expelled from the most important branches of national economy, consequent on the successes of government and co-operative industry, have in many cases crept into co-operative organizations and transformed them into spurious co-operative societies which are put forward as instrument and cover for their speculative activity. This has taken place particularly in agricultural, professional and disabled men's co-operative societies, mainly in consequence of the insufficient economic and organic control of primary co-operative societies by the co-operative societies unions.

With the object of controlling this tendency the Soviet of Commissioners of the people of the Union of S. S. R. has laid down :—

(1) Those co-operative societies whether included or not in the co-operative system are recognized as spurious :

(a) if among their founders or members of the elective bodies there are included persons whose participation is prohibited by law, or

(b) if capitalist elements have a predominant influence in them, and use the co-operative organization for class purposes, or

(c) if their activity is contrary to the interests of the socialist organization.

(2) As regards organizations the majority of whose members is formed of workers and whose activity can be corrected, measures of purification should be adopted as for example :— holding fresh elections of officials of management and revision, the strengthening of the management and control on the part of the competent agents, the admission into the composition of these co-operative societies of new worker members, their inclusion in the co-operative system etc., and in case of necessity the exclusion of capitalist elements which are injurious to their activity.

Organizations which cannot be corrected by the measures indicated will be subject to unconditional liquidation.

The liquidation of spurious co-operative societies is carried out in accordance with the arrangements in force regarding the procedure for the discontinuance of co-operative organizations].

UNION OF SOVIET SOCIALIST REPUBLICS. — Decree of the Central Executive Committee regarding the system of agricultural credit. — 13 February 1929, *S. Z. i. R.* n. 10, st. 96 (26 February 1929).

Central Agricultural Bank. — The powers of the Central Agricultural Bank consist in :— (a) granting credits exclusively to pan-unionist enterprises and organizations and to agricultural banks of Republics of the Union ; (b) in regulating and drawing up the programmes of action and controlling the activity of the whole agricultural credit organization. It is the business therefore of the Central Agricultural Bank to carry out the following fundamental duties :— (a) the disposal of pan-unionist resources, intended for financing credits in favour of agriculture ; (b) representing the interests of the agricultural credit organization before the legislative and other agencies of the U.S.S.R. ; (c) investigating and setting forth the general problems of the organization and activity of the agricultural credit system, and projects of law relating to it ; (d) drawing up general schemes of the agricultural credit organization and giving obligatory directions for carrying them out ; (e) supervising the application of measures and legislative provisions in the matter of agricultural credit ; (f) controlling the activity of agricultural banks of the republics of the Union, particularly, in matters concerning credit schemes and the utilization of funds ; (g) fixing the percentage limits of interest to be levied on loans granted by institutions of agricultural credit ; (h) and lastly in presenting to the Government of the Union of S. S. R. a general account of the activity of the agricultural credit organization.

Agricultural credit banks of the Republics of the Union. — The functions of these Banks should be settled respectively by each of the Governments of the Union. The decree lays down however that the following should be included among their functions : — (a) the drawing up of general schemes of agricultural credit for each republic ; (b) the

construction of a system of agricultural credit institutions in each republic; (c) the control of the policy of agricultural credit societies and agricultural co-operative societies granting credit; (d) the control of their activity; (e) the representation of interests of the system of agricultural credit institutions with the legislative and other agencies in each republic; (f) the drafting of projects of law and the presentation of reports.

For the disposal of their own funds as well as funds which are placed at their disposal by local resources the Agricultural credit societies and credit granting agricultural co-operative societies included in the system of agricultural credit, have the right to dispose of these funds with full autonomy, in conformity with plans drawn up within the limits of the general directions of the agricultural credit system and ratified by the competent local executive agents. In the system of agricultural credit is concentrated the financing of agriculture by means of the concession of long and short term loans, and precisely :—

(a) the financing of individual peasant farms, of agricultural co-operative societies of the first degree (including collective farms) and unions of individual peasant farms of every kind, trade co-operative societies of the first degree and collective farms having the following objects :—

(1) the production of agricultural commodities and their primary treatment, the construction and repairing of farm buildings, the purchase of machinery and means of production (under this heading are included the agricultural dead stock, agricultural machines, plough cattle, milch and breeding cattle, fertilizer, seed and means of control of crops pests);

(2) meeting the requirements of forest exploitation, fishing, hunting and other agricultural industries;

(3) meeting the necessities of agricultural emigration, colonization and land organization;

(b) the financing of agricultural and trade co-operation — the construction, repair and improvement of installations for the manufacture of agricultural produce].

EGYPT. — Décret-loi sur la réalisation du gage dans les contrats d'avances faites par le Gouvernement, aux cultivateurs de coton. — 14 janvier 1929 — *Journal Officiel*, n. 8 (24 janvier 1929).

[This law applies to advances made by the Government, or by the banks on behalf of the Government, to cotton growers who pledge their cotton. In the event of the capital advanced by the Government not being repaid on the date of expiration, recourse will be had to the sale of the cotton. Before effecting this sale, however, notice must be given to the grower and only after the lapse of thirty days from his receipt of the notification, will the sale be made. The Ministry of Finance will undertake the sale of the cotton either by public auction or otherwise. If it has been decided to sell the cotton by auction the sale will be held at a place appointed by the Ministry and notice of the day and hour of the sale will be posted on the door of the place where the cotton has been deposited.

Before the sale the borrower must be advised whether it will be carried out otherwise than by auction. The amount of the advance due and the recoverable expenses of the loan will be deducted from the result of the sale together with 1 % on the results of the sale. In the case of seizure or opposition the sale will take place in the same way and the money will be handed over to a competent tribunal].

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INTERNATIONAL REVIEW OF AGRICULTURE

PART II

MONTHLY BULLETIN

OF

AGRICULTURAL ECONOMICS AND SOCIOLOGY

INTERNATIONAL AGRICULTURAL ECONOMY

Decline in Purchasing Power for External Commodities in Agriculture in relation to Income.

In the existing economy there are two main groups of production, the industrial and the agricultural, sharply distinguished the one from the other. It results from the nature of the case, that both groups in turn function as supplier and receiver.

If the unit quantity of the products of one type suffers a fall in value more marked than the corresponding quantity of goods of the other type, the result must be a reduction, both in bulk and value, of the purchasing power of the affected group for products external to itself.

The post-war period (since 1921) is characterised by an inflation of agricultural products as compared with industrial, which was bound to affect the market for industrial products. The point of special interest is the question in what ratio and up to what limits the fluctuation in the purchasing power of agriculture for external products corresponds to the general course of the return. The measure of elasticity or adaptability of the external purchasing to the conditions of return and income differs very much in farming. The nature of the undertaking, its structure, its sociological relations, position as regards rights and ownership, the size of farm, the duration of the processes of production, the quota of expenditure, the proportion of work done by the farmer himself, the organisation of the separate groups for supply, the principle of scarcity (*Knappheit*), State orders and protective measures for the farm workers, here play very important parts.

The manifold differences between the natural and the economic conditions of production must have their effect in the elasticity of purchase of external commodities in relation to the fluctuations of the return. A true relation of the income and expenditure curves must be established from the graph (I) which is constructed on the basis of the farm accountancy results.

The effect of the factors which determine the extent of the purchases of external commodities is very various. With normal farming results the money for defraying such expenditure is derived from the receipts from the sales of agricultural products. Normal results in this sense depend on conditions under which the work capacity of the farmer and his investment of his own capital are compensated to the extent, at least approximately, to which they would be compensated in other openings for work or for investments. For the position of the liquid assets, the extent of the work and capital returns is of importance, and also of course these

returns as compared with the corresponding outlay for the maintenance of the farming family. The reservation must be made that sums representing income are actual amounts only in the book-keeping sense and can only partially be realised. If remuneration of the labour and capital of the farmer is an ordinary farming usage, a surplus over expenditure is generally possible. If these amounts representing income drop, the margin between income and consumption will become gradually more narrow and will ultimately vanish. This drop in income would certainly not occur, if with the fall of production prices, there could be a corresponding lightening of costs either by reducing quantity or value. The movement of agriculture is from natural circumstances too slow for it to react in this way. If a tendency to compulsory saving makes itself felt the limits are soon reached. The private expenditure is almost automatically reduced, but the minimum standard of living here already acts as a natural limit. Any further procuring of means for such external purchases of farm equipment as are inevitable becomes a question of the realisation of the liquid owned assets. The possession of capital by the peasant farmer thus acts as a buffer, and makes possible a greater capacity on the part of agriculture for absorbing external commodities than would be the case if he depended only on returns and income. This view is confirmed by the following graphic statement (Graph I); the figures are taken from the earning capacity returns of the Swiss Peasants' Union.

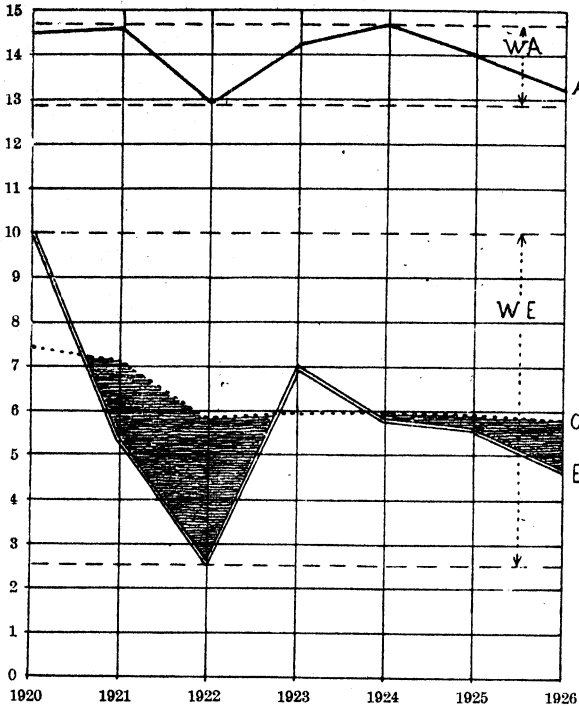
This graph shows sufficiently clearly that the course of the two curves is essentially different and that only a weak positive correlation exists between the two. The amounts expended fluctuate only slightly as compared with the variation in the sums representing income. The ratio of the spread of the two series compared has been calculated in Graph I, and the result is a somewhat high figure, *viz.* 4.55. This figure thus confirms the view that the elasticity of the expenditure side of the farming budget is very limited. The agricultural crisis is not noticeable, at least during a number of years, in any marked degree for the groups of suppliers.

The special feature of the retention of the absorption capacity of agriculture is connected with its social structure, *viz.*, the predominance of a class of small and medium-sized farmers strong in point of numbers and especially the large number of farmers each of whom can draw upon a certain amount of owned capital. This owned capital forms, as already mentioned, the preliminary "balancing point", and provides the funds that are needed for defraying the expenses. The extent of this balancing naturally depends on the extent, nature and liquidity of assets, and is moreover a function of the money and credit relations of the farm in question. If the draining of the resources goes on for long, the indebtedness becomes correspondingly greater, the securities for fresh borrowings become less and the possibility of obtaining fresh liquid assets becomes more and more difficult, and the inevitable end is the liquidation and relinquishment of the farm, unless the State, or in particular the social body, can by means of credit relief measures maintain the undertakings *in statu quo* until the advent of better times or the reorganisation of the farm. It is on this account that the more or less large scale credit measures of the States are of significance.

Table I shows the distribution of the expenditure, as made possible by the fresh borrowings. It must be kept in mind that the following figures only relate to the fresh indebtedness, and that the employment of any capital that may be available is not taken into consideration. The percentage figures are only derived from the outgoings of the farming (not counting the interest charges), the private

GRAPH I. — *Course of Income and Total Expenditure in Swiss Agriculture.*

Thousands of
Swiss francs



— A = Total expenditure of the farming family [farming (apart from capital expenditure and purchases of live stock) housekeeping, and private consumption].
 - - - E = Total income of family (apart from non-agricultural business).
 - - - - O = Amount of income, when expenses are fully covered.
 WA = Spread of fluctuations of expenditure (1633 Fr.).
 WE = Spread of fluctuations in income (7436 Fr.).
 WF =
 WA = 4.55.

expenditure for the family and for housekeeping being taken as covered. The data are derived from the results of accountancy in Germany.

Only those farm groups have been included in the table, which have a fairly large number of single items of expenditure. The table shows that the German farmer during the three years under review has been obliged to incur fresh debts continually and that it is impossible for him to adapt his expenditure budget to his sources of income.

It has already been mentioned that the possibility of reducing expenditure is the result of certain factors and that savings of this sort if realised are usually

**TABLE I. — The Funds Available as the Result of Fresh Borrowings, in Percentag
of the Farming Expenditure.**

Farming region farming system and size-category of farm	Percentage of the total farming expenditure to be defrayed out of the fresh borrowings (not including interest.)		
	1924/25	1925/26	1926/27
	%	%	%
East Prussia: fodder crop farming on average soil, farms of:			
10-50 ha.	79	38	26
50-100 ha.	72	53	67
100-200 ha.	94	54	32
200-400 ha.	57	91	0.6
over 400 ha.	82	41	4
Silesia: cereal farming on average soil, farms of:			
20-50 ha.	24	21	100
Fodder crop farming on average soil, farms of:			
20-50 ha.	26	24	35
crops for distilling, farms of over 100 ha.	31	31	—
North Germany: cereal farming on average soil, farms of 20-50 ha.	31	58	17
Fodder crop farming on average soil, farms of 20-50 ha.	34	28	67
Crops for distilling, over 100 ha.	55	29	46
Central Germany: root crop farming (sugar beet cultivation)			
Farms of:			
5-20 ha.	28	11	33
20-50 ha.	17	13	—
50-100 ha.	23	12	8
100-200 ha.	16	13	5
over 200 ha.	16	55	24
Cereal farming on average land:			
Farms of 20-50 ha.	31	8	—
Farms of 100-200 ha.	19	10	43
Crops for distilling	25	15	3
Northwest Germany:			
Cereal farming on good land, farms of 20-50 ha.	81	5	22
Fodder crop farming, farms of 20-50 ha.	17	17	30
Over 200 ha.	38	45	60
Southwest Germany:			
Fodder crop farming, 20-50 ha.	32	3	28
Bavaria: cereal farming on average land, farms of 20-50 ha.	—	14	82
Fodder crop farming on good land, farms of 20-50 ha.	—	24	22
On average land, farms of 5-20 ha.	—	11	8
20-50 ha.	—	10	7
Pasture farms:			
5-20 ha.	—	—	45
20-50 ha.	—	10	9

confined to certain definite costs. Graph II reproduces the fluctuation in the expenditure of an average Swiss peasant farming family for the three main counts (agriculture, housekeeping and private expenditure).

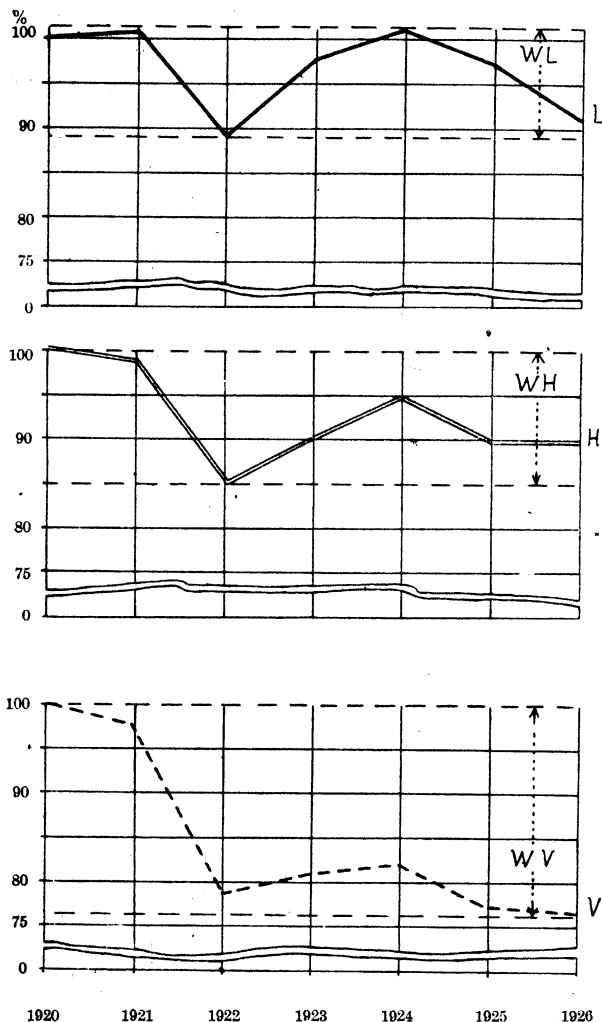
In connection with these fluctuations there are also tendencies in regard to quantity and price which have a certain effect, but it should be noted that the price for agricultural products has fallen much below that for industrial products, so that the comparison of the consumption expenditure and the household expenditure gives an unambiguous result; especially in view of the fact that private expenditure has considerable elasticity and also quickly shows contraction and at present has reached a minimum which can scarcely be further reduced.

Farm outgoings are much more difficult to modify and the fluctuations are mainly the result of price changes and not of differences in the extent of purchases. It should be mentioned here that purchases for stock must be placed on the side of farm outgoings, as these are not really external commodities and moreover often result in adjustments of assets, or increased assets.

The fluctuation of the main groups of expenditure in agriculture is of interest. Table II, which has been compiled from German returns of farming enterprises, shows the changes in structure during the period 1924-26, the period of crisis, as compared with the more favourable pre-war period.

GRAPH II. — *Course of the Expenditure for Farming, Housekeeping and Private Consumption on Swiss farms in years 1920-1926.*

(1920 = 100)



— L. = Expenditure for farming (apart from capital expenditure and purchases of live stock).

— H. = Expenditure for purchases of additional food, etc.

- - - V. = Expenditure for other ordinary requirements.

W L. = Greatest spread of L. = 11.95 % of L. 1920.

W. H. = Greatest spread of H. = 14.49 % of H. 1920.

W. V. = Greatest spread of V. = 23.40 % of V. 1920.

TABLE II. — *Tendency of the Farming Expenditure on German Farms as compared with the Pre-war Period.*

Farming region	Type of farm	No. of points by which farms included in one group have, from 1912-14 to 1924-26,	Outgoings				
			Wages	Fertiliser	Stock feeds	Upkeep of machines and tools	Total
East Germany	Root-crop farming	risen	37	20	19	42	33
		fallen	7	19	25	2	11
	Cereal farming . .	risen	35	19	10	38	31
		fallen	10	26	35	7	14
	Fodder crop farm- ing	risen	33	26	11	34	38
		fallen	11	18	33	10	11
	Crops for distilleries	risen	26	16	8	26	22
		fallen	4	14	22	4	8
Central, West and South-west Ger- many	Root-crop farming	risen	58	21	15	58	40
		fallen	6	38	44	1	19
	Cereal farming	risen	19	16	6	19	15
		fallen	1	4	14	1	5
	Fodder crop farm- ing	risen	15	17	8	22	18
		fallen	9	7	16	2	6
	Crops for distilleries	risen	25	16	7	26	21
		fallen	3	12	21	2	7

The total outgoings have risen, the main explanation of this being the price relation. Within this total group there is noticeable an extraordinarily well-marked structural re-arrangement. This is especially the case with the figures representing wages. The farms having the higher cash outlay on wages form by far the larger number. The expenditure for implements and upkeep of buildings shows the same fluctuation. The only cost groups with more elasticity, of course only in the sense of the farm budget, are the purchases of raw material, and in this respect a retrograde tendency affecting rather the quantity than the quality purchased may be noted as regards the stock feeds. The expenditure for fertiliser is not so uniform, but here too the farms closely approximate both in decrease and in increase, and these purchases are even in some groups in the minority.

It may thus be concluded that losses of income in industry and in agriculture affect the supplier somewhat diversely. In consequence of the social structure, *i. e.*, of the relatively small number of capitalist employers of labour and the large mass of workers not possessing capital, the diminution of purchasing power in industry has a much more serious effect on the marketing capacity of agricultural products than the agricultural crisis has on the shrinkage of the markets for manufactured goods. The reason for this lies in the fact that the fall in the purchasing power of agriculture, due to fall in income, is experienced over a relatively long period only by a fraction of the suppliers, while the majority of the farmers can maintain by means of their own capital a level of absorption of external commodities higher than would correspond to the exchange value of the products of their own production. Numerous data establish the fact that the farmer exercises the most rigid economy in his private expenditure, whereas the farm expenditure has only a slight elasticity. Considerable modifications are noticeable in the work undertaken by the farms owing to restriction of funds, while the ruling costs usually remain constant; on the other hand the principal economy can be and actually is effected in respect to the importation of raw material, which must necessarily lead to a gradual diminution of production

and productivity. The differing tendency of the effective purchasing power of agriculture and industry finally affords a clear explanation of the question of the comparative influencing of prices.

W. B.

CREDIT

Agricultural Credit and Co-operation in France.

I. AGRICULTURAL CREDIT.

The much slower advance of agriculture as compared with trade and industry accounts for the fact that the advantages of credit are but now beginning to become clear to the agriculturist, and it may be said that he has been driven to have recourse to credit mainly by force of economic circumstances. It was only the more enlightened minds that recognised early the importance of placing at the disposal of farmers, as was urged by M. Josseau, in 1866, "the means of purchasing at the right moment and on the best possible market, live stock and fertilisers, of carrying out land improvement works, of choosing the favourable moment for the sale of the products of the soil, and by a general improvement of farming methods, of making an effective contribution to the sources of the prosperity of the country". Up to the last years of the XIXth century, however, there were no institutions which could place capital on favourable terms at the disposal of farmers, who were thus obliged to apply to individuals for long term and medium credit. Short term credit did not exist. During the first half of the XIXth century an attempt was made to create agricultural credit institutions, but all that was aimed at was a copying of the organisation of commercial and industrial banks and nothing came of the movement.

It then became clear that the best means by which the administrators of these banks could obtain an idea of the solvency and vocational standing of borrowers was to group them, as urged by Leon Say in 1889, in vocational associations in which the members, like the members of the Raiffeisen banks in Germany, the credit syndicates in Belgium and the Wollemborg societies in Italy, would enter into a mutual guarantee to obtain, by this means, advances of the necessary funds for such length of time as might be required.

The law of 1884 on the vocational unions (*syndicats professionnels*) recognised the right of farmers to unite for the protection of their social and economic interests, and thus gave a definite impulse to agricultural credit.

It is in fact the vocational union or syndicate, and the agricultural unions which have been their outcome, that form the basis of the present organisation of agricultural credit in France. The first law which laid the foundations of this organisation was the law of 5 November 1894, known as the Loi M-line, by which the agricultural syndicates or their members were empowered to form co-operative credit associations. By the law of 17 November 1897 renewing the privilege of the Bank of France, the State subsequently undertook to secure to these credit institutions resources represented by an advance of 40,000,000 francs repayable, and by the annual special payments (*redevances*) of the Bank of Issue. Regional institutions, known as regional banks of co-operative agricultural credit, were set up by the law of 31 March 1899 introduced by M. Viger in order to make these resources available for the local banks and generally to facilitate their operations.

The laws of 5 November 1894 and of 31 March 1899 had organised only short term credit, but before long it was recognised as essential that the co-operative agri-

cultural societies of production, transformation and sale should be assured of a wider measure of financial support, seeing that their services were becoming increasingly indispensable to farmers. To meet this need the law of 29 December 1906 established long term credit in favour of this type of co-operative society.

The object of the law of 19 March 1910 which instituted individual long term credit for the purchase of small rural holdings was to encourage the taking up of holdings by farm workers. The total amount for these long-term individual loans was first fixed at 8,000 francs but has been raised by later laws to 10,000 francs, 20,000 francs, 40,000 francs and finally to 60,000 francs. The social value attaching in a marked degree to long term agricultural credit justifies the very reduced rate of interest it carries, a rate which for a long period remained at 2 per cent. but is now 3 per cent., except for certain classes of borrowers who benefit by a lower rate.

The different legislative measures enumerated and the amending measures passed up to 1914 had placed agricultural credit on a solid basis, but the actual resources of the banks of agricultural credit were very small, as few deposits were made and State advances constituted most of their available funds.

Reform was accomplished by the very important law of 5 August 1920 which amended and consolidated the previous laws on agricultural credit. In virtue of the law of 19 December 1926 the *Caisse Nationale de Crédit Agricole* may itself receive deposits from any individual.

Medium-term credit is granted for a period which may not exceed 10 years. This form of credit has developed so rapidly that it has been necessary to constitute a special fund for it; the law of 15 July 1928 has authorised the State to place at the disposal of the *Caisse Nationale de Crédit Agricole* funds up to a maximum of 500,000,000 francs intended to enable the Bank to assign to the regional banks of agricultural co-operative credit loans for intermediate credit.

The law of 27 December 1927 enacted that the banks of agricultural credit may also grant short-term, medium-term and long-term credit to communes and unions of communes for the execution of all work relating to irrigation, land drainage and protection of land against floods.

Grants of agricultural credit from the special payments made by the Bank of France to the State (*redevances*) are reserved — with the exception of the total of advances at present outstanding for medium-term credit and of a sum which may vary between 50 and 75 millions allocated for short term credit — for long-term loans both to individual and to groups of persons. As regards medium-term credit it is now given by means of special advances which the State has been empowered by the law of 15 July 1928 to place at the disposal of the *Caisse Nationale de Crédit Agricole*.

The application of the law of 5 August 1920 and in particular the action of the *Caisse Nationale de Crédit Agricole* have given a marked impetus to agricultural credit operations which have rapidly developed during these last few years.

On 31 December 1928, there were 98 regional banks to which belonged 5,730 local banks with an aggregate membership of 383,000 members; in addition 1,225,000 persons who are members of agricultural syndicates are enabled to benefit indirectly by the services of these banks. The capital of the regional banks amounts to nearly 100,000,000 francs and their reserves to about the same sum while this capital and the reserves in 1913 amounted only to 25 and 8 million francs respectively and in 1920 to 29 and 23 millions respectively.

Since 1921 the deposits of funds in the regional banks have been as follows :

	Deposits received during the year	Total deposits 31 December of each year
1921	151,000,000	33,000,000
1922	168,000,000	47,000,000
1923	233,000,000	57,000,000
1924	298,000,000	83,000,000
1925	467,000,000	155,000,000
1926	748,000,000	269,000,000
1927	1,181,000,000	440,000,000
1928	1,785,000,000	633,000,000

The duration of long term individual loans cannot exceed 25 years and their rate is at present fixed at 3 per cent. for ordinary borrowers and at 1 per cent. for war pensioners who benefit besides by reductions on the interest of capital varying according to the number of their children.

On 31 December 1928 the number of loans of this kind made amounted to 45,317, including more than 13,000 to disabled ex-service men, the total amount being nearly 532 million francs. At this same date the repayments made amounted to 162 million and the outstanding loans to 370 million francs.

The period of short term loans is variable, usually nine months to one year; the rate of interest varies according to the banks, as the Decree of 9 February 1921, amended by that of 4 April 1929, fixed for this rate a minimum which is the rate paid on shares and a maximum which is one per cent. above the rate of advances on bonds of the Bank of France. Exceptionally it may be less than the rate paid on shares but cannot be less than 3 per cent. when loans are intended for agricultural associations.

During the year 1928 the total of the bills discounted or renewed by the regional banks amounted to 1,281 million francs. On 31 December 1928 the amount of the short-term loans outstanding was 535 millions.

Since the beginning of agricultural credit the total amount of the short-term loans has reached the sum of 3,192 millions. The repayments made have amounted to more than 2,657 millions.

The total of the medium-term loans, the rate of interest on which is fixed on the same conditions as that on short-term loans, amounted for 1928 to 138 million francs about, bringing the total of the loans granted since 1921 up to 31 December 1928 to 408 millions. The repayments amounting to 128 million francs, the sum representing the medium-term loans outstanding at this latter date is 281 million francs about.

The different corporate organisations which are entitled to receive long-term loans with a maximum period of 25 years and the existing rate of interest at 3 per cent. are the co-operative societies, the trade associations, the communes and the communal unions. On 31 December 1928 the number of long-term advances, made to more than 2,000 co-operative societies or similar institutions with an aggregate membership of 346,500 members and a share capital of more than 168 million francs, was 2,553 representing a total of more than 273 million francs. The repayments effected amounted to about 84 million francs and the outstanding loans at that same date to 189 million francs.

On examining the record of the loans made by agricultural credit, it is observed that before 1921 the Committee of the Ministry of Agriculture for assignment of advances to the regional banks advanced in 22 years 156 million of francs while the *Caisse Nationale de Crédit Agricole* has granted loans from 1921 to 1928 inclusive, *i. e.*, in 8 years, for more than one milliard francs. The owned capital of this bank amounted on 31 December 1928 to 860 million francs nearly which was almost completely engaged as at that date there remained only about 659,000 francs available. The advances made from these resources and outstanding on 31 December 1928 were divided between the different forms of credit as follows :

62 millions and a half about for short-term credit					
200	»	»	»	»	» medium-term credit
395	»	»	»	»	» individual long-term credit
203	»	»	»	»	» collective long-term credit

On 31 December 1928 medium-term credit for 103 million francs was granted out of the resources placed at the disposal of the *Caisse Nationale* in virtue of the law of 15 July 1928.

Summarising, for long-term and medium-term advances the *Caisse Nationale de Crédit Agricole* has now available a capital of nearly 900 million francs mainly derived from the special payments made by the Bank of France and from a special fund of 500 million francs coming from the State in pursuance of the law of 15 July 1928.

The regional banks and the associations which receive the advances make punctual repayments and on 31 December 1928 these repayments amounted to 320 million francs, including 32 million francs before the establishment of the National Bank and 288 million francs since its establishment.

The law of 30 July 1928 establishing a programme of construction of cheap dwelling houses has empowered the regional banks of agricultural credit to take part in the application of this measure so as to facilitate the purchase or the construction of houses intended for farm workers or small rural artisans. Loans are made in application of the law of 2 August 1923, amended by the law of 30 December 1928 with the funds placed by the *Caisse de dépôts et consignations* at the disposal of the State under conditions similar to those of the law of 15 July 1928 regarding medium-term credit. A sum of 600 million francs has been allocated for this purpose. On 31 December 1928, a total of 200 million francs had been granted to 669 organisations. Before the law of 2 August 1923 the National Bank of Agricultural Credit had already assigned to 50 co-operative societies for distribution of electric power in rural districts 62 long-term advances amounting to 27 million francs in application of the law of 4 August 1920.

Independently of the local banks of agricultural co-operative credit for which the rules were established by the law of 5 August 1920 and which are affiliated to the regional banks receiving advances from the National Bank of Agricultural Credit, there are in existence in France other institutions carrying on agricultural credit operations. Some also come under the law of 5 August 1920, but work with deposits only without either loans or State control. The majority, however, known as rural banks, are constituted under the form of *sociétés en nom collectif*, similar to the Raiffeisen banks. The number of these is about 3,000, and they are engaged solely in credit operations for agriculturists.

2. AGRICULTURAL CO-OPERATION.

The *Fruitières* (or co-operative cheesemaking societies of primitive type in the Jura) numbering at present 1,500 constitute *de facto* societies which often have neither rules nor written charter, as being in existence before the Civil Code.

Co-operation for Joint Purchasing. — This form of agricultural co-operation did not arise in France till the last quarter of the XIXth century and has only developed since 1884 when the law on the vocational unions came into force.

Special groups were founded starting from 1881 under the name of "agricultural syndicate" with a view to grouping the orders for fertilisers given by their members so as to secure better prices and to avoid risk of fraud at that time frequent in connection with this product. These groups however had no legal existence and could not under these conditions increase in number. Also when Parliament had voted the law of 21 March 1884, authorising the formation of unions between persons of the same occupation for the study and protection of the vocational interests of their members, the farmers hastened to make use of this new legislation and the agricultural syndicates increased rapidly in number. These syndicates acted as agricultural co-operative societies for purchase and sale such as had not been provided for in the law of 21 March 1884. Thus the legality of such operations was stoutly contested before the passing of the law of 12 March 1921 which, amending that of 21 March 1884, empowered the syndicates or unions to carry on such operations under certain conditions. The agricultural unions have made continuous progress since 1884. In 1910 there were about 5,000, at the present time their number exceeds 9,000, the majority grouped into departmental or regional unions with 1,225,000 affiliated members about. Among those with the largest turnover may be mentioned the co-operative society of the Central Union of the Farmers' Unions of France (*Union centrale des syndicats des agriculteurs de France*) at Paris to which about 1,300 unions belong and which in 1927 carried out operations representing more than 31 millions of francs, that of the *Union du Sud-est des syndicats agricoles* at Lyons, the co-operative society of the *Office central des œuvres mutuelles agricoles du Finistère* at Landerneau, that of the *Syndicat des agriculteurs de la Manche* which has carried out operations representing 35 million francs. According to the statistics prepared in 1928 by the *Caisse nationale de crédit agricole*, there are in France 125 agricultural co-operative societies of joint purchase and supply of very varying importance.

In certain regions of France, and more especially in the West there were founded, from 1860, rural co-operative bakery societies among farmers. These societies which are also called "*sociétés de panification*" number about 500.

Co-operation for Production, Transformation, Preservation and Sale. — The majority of the agricultural co-operative societies for production, transformation, preservation and sale have adopted either the organisation of private civil societies as laid down in articles 1832 and following of the Civil Code, or that of limited liability societies with variable capital and staff, as laid down by the law of 24 July 1867 on limited liability companies.

When they desire to receive advances of agricultural credit they must in addition conform to the provisions of the law of 5 August 1920 as extended by the law of 30 December 1922 on agricultural co-operative credit and co-operation and to those of the law of 12 July 1923 relating to agricultural co-operative societies. A certain number of these societies, and more particularly the co-operative selling societies, and those for joint use of agricultural machinery and the stock-breeding societies, have adopted the form of a syndicate, that is to say, their rules are those

laid down by the laws of 21 March 1884 and 12 March 1920 on the vocational syndicates. Finally certain scattered co-operative associations have placed themselves under the ordinary law of associations (Law of 1 July 1901).

Statistics of Agricultural Co-operative Societies. — The table subjoined summarises the latest statistics published by the *Caisse Nationale de Crédit agricole* which are brought up to 31 December 1927.

Cooperative Societies classified according to purpose	Societies having received long term agricultural credit advances	Societies not having received such advances	Total
Dairies and butter-making societies	119	275	894
Cheese-making societies including <i>fruitières</i>	360	1,159	1,525
Casein-making societies	4	—	4
Vine-growers societies	298	53	851
Distilleries	96	146	242
Perfume distilleries	7	—	7
Sugar refineries	4	5	9
Sugar beet distilleries	10	—	19
Oil mills	36	11	47
Milling bakeries and bakeries	25	534	559
Societies for utilisation of threshing and other machines	647	422	1,069
Collective farming utility (Societies for rural electrification)	53	4	57
Miscellaneous.	78	81	159
	1,752	2,690	4,402

On 31 December 1927 the *Caisse nationale* made long-term advances to 1,753 agricultural co-operative societies of production, transformation and sale; to 31 co-operative societies for joint purchase and supply and to 90 agricultural associations of syndicate type.

"Fruitières" and other Co-operative Cheese-making Societies. — In 1925 these societies have transformed 400 millions of litres of milk into cheese and butter representing in all a value of 375 million francs.

"Fruitières" and other Co-operative Cheese-making Societies.

Departments	Societies having received long term agricultural credit advances	Societies not having received such advances	Total
Haute-Savoie	178	278	456
Jura	39	382	421
Savoie	25	194	219
Ain	51	132	183
Doubs	24	136	160

In May 1929 the membership of these societies was 70,000 in all and they had received 589 advances for a total of 41,800,000 francs.

Co-operative Dairies, Butter Factories and Casein-making Societies. — These exist more particularly in the region of Charentes and Poitou where in 1893 a powerful federation was formed among them known as the *Association centrale des laiteries coopératives des Charentes et du Poitou*. In 1927 the membership of this association included 131 dairies and about 80,000 farmers with 234,000 cows, or an average of 2 to 3 cows apiece, showing clearly that the members are mainly small holders. These dairies have handled in that year 415 million litres of milk which have given

18 million kilogrammes of butter representing more than 400 million francs. As regards the 54 co-operative dairies of the department of Charente-Inférieure which are affiliated to the Association and to which about 30,000 farmers belong with a total of 90,000 cows, the quantity of milk handled in 1928 was 170 million litres which produced 7,350,000 kilogrammes of butter sold at the average price of 20 fr. 40 the kg. corresponding to a price of 0.93 francs per litre of milk paid to the members. The general expenses amount to about 11 centimes per litre of milk.

Another equally important group of dairies and butter factories is that of the Indre-et-Loire and of the neighbouring departments which formed the Federation of Co-operative Dairies of Touraine, Anjou and Maine to which are affiliated 22 societies.

In 1928 the Union of Co-operative Casein-making Societies, which has an important factory at Surgères, included 39 affiliated societies and manufactured in that year nearly 4 millions of kilogrammes of casein sold for 30 million francs. The Federation of Casein-making Societies of Aunis and Saintonge, which has headquarters at Taillebourg (Charente-Inférieure), included in the same year 16 societies and handled 1,120,000 kg. of casein sold on an average at 720 francs the 100 kg.

	Number of co-operative dairies and butter factories
Charente-Inférieure	69
Deux-Sèvres	45
Haute-Saône	32
Indre-et-Loire	26
Ain	26
Charente	24
Haute-Marne	22

Co-operative Vine-growers' Societies, Distilleries and Oil-mills. — The first co-operative vine-growers' societies were founded in the Jura, in Bourgogne and on the Marne, but it is in the departments of the Midi: Var, Gard, Hérault, Bouches-du-Rhône, Aude, Vaucluse, Pyrénées-Orientales, that these institutions have rapidly extended since the first society of the kind was founded in that region in 1902: that of Maraussan. The co-operative vine-growers' societies of the six main vine-growing departments of the Midi produce yearly on an average nearly four millions and a half of hectolitres of wine and for the Var the output of these societies represents half the total production of the department. The advantages enjoyed by the members are on the one hand that they obtain a higher yield, on an average 10 litres more per quintal of grapes and a wine of better quality; on the other hand that they secure the storage of their wine which can thus be preserved and sold at the most favourable time.

The co-operative vine-growers' societies have formed federations: the two most important are: the Federation of co-operative vine-growers' and olive-growers' societies of Var to which are affiliated 24 co-operative oil mills, the vine-growers' societies producing more than a million hectolitres of wine; and the Southern Federation of wine-making societies including the societies of the greater part of the other departments of the Midi, the production in a normal year reaching

nearly one million and a half of hectolitres. A table is subjoined showing the number of co-operative vine-growers' societies as well as their average production in the principal vine-growing departments on the date of 31 December 1927.

Departments	Co-operative societies		Total	Output of the co-operative vine-growers' societies	Total output of the department	%
	which have received long-term agricultural credit advances	which have not received such advances				
				HL.	HL.	
Var	80	1	81	1,000,000	2,300,000	48
Gard	50	2	52	700,000	4,700,000	14
Pyrénées-Orientales	37	—	37	450,000	3,200,000	14
Bouches-du-Rhône	34	—	34	400,000	1,300,000	25
Hérault	22	5	27	1,000,000	18,000,000	8
Aude	19	3	22	350,000	6,000,000	6
Vaucluse	20	1	21	450,000	1,000,000	45
Côte-d'Or	2	18	20	—	—	—
Ardèche	5	1	6	—	700,000	—
Saône-et-Loire	5	—	5	80,000	800,000	10
Jura	5	—	5	—	—	—
Basses-Alpes	3	1	4	15,000	100,000	15
Drôme	2	—	2	32,000	400,000	8
Indre-et-Loire	2	—	2	18,000	500,000	3

Distilleries. — The following are the departments in which at the end of 1927 there were the largest number of distilleries.

	Number of co-operative distilleries
Hérault	69
Aude	61
Loir-et-Cher	26
Ain	15
Pyrénées-Orientales	5

In May 1929 there were 1,350 co-operative vine-growers' societies and distilleries with a total membership of 80,000 cultivators, which had in all received 636 advances on long-term credit for a total sum of 130 millions.

Co-operative Societies for the Joint Utilisation of Agricultural Material. — 130 of these societies were founded during 1927. In May 1929 the membership of these was 40,000 and they had received 883 advances to a total of 25,300,000 francs.

Co-operative Rural Electrification Societies. — These co-operative societies must be treated apart, for the reason that while some render services only to their members the greater number have adopted the form of society of collective farming utility as established by the law of 5 August 1920 which makes practicable the admission of users who are not members. Nearly all these societies have applied for financial assistance to the *Caisse nationale* which has granted advances first in application of the law of 5 August 1920, then in application of the law of 2 August 1923, thus enabling by State advances the distribution of electric power in country districts.

The *Société de St. Martin de Londres* in Hérault generates electric power by means of hydro-electric works of 2,100 horse power on the Hérault river.

The electric power co-operative societies have established networks serving nearly 1,200 rural communes with a population benefiting of nearly 350,000

inhabitants. During 1927 they supplied to their users nearly eight million kilowatt-hours. The total length of the systems is about 6,500 kilometres.

Agricultural Co-operation in Algeria. — At the present time the vine-growers' societies to the number of 82 with about 2,000 members produce nearly 1,200,000 hectolitres of wine. There are also in Algeria 7 co-operative distilleries, those situated in the plain of Mitidja being of considerable size. The cereal silos can store about one million quintals; the largest, that of Relizane, can take 200,000 quintals.

Another form of co-operation, viz., the *tabacoops* of which there are three are composed not only of settlers, but also natives, and have greatly contributed to the improvement of the cultivation and marketing of Algerian tobacco. These *tabacoops* or tobacco silos include 6,000 members and can store 180,000 quintals.

Mention should also be made of 62 co-operative societies for joint utilisation of agricultural material, two for electric ploughing, ten for rural electrification, and the sheep-breeding co-operative societies.

LOUIS TARDY.

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LAND SYSTEMS

The Agrarian Reform in Finland.

The following report on the agrarian reform in Finland is the second published in the series of articles in this Review relating to the changes which have taken place since the war in the agrarian structure of the different countries of Central and Eastern Europe. Similarly to the first report, which related to the agrarian reform in Lithuania, appearing in our Review of July, No. 7, the present report emanates from the Ministry of Agriculture of the country to which it refers. It is also a reply to the official enquiry made by the International Institute of Agriculture on agrarian reform. This extremely interesting official document, which is a study of a phenomenon which has far reaching effects on the whole of economic and social life, will without doubt be highly appreciated by all those who are interested either theoretically or practically in this important question.

In order that the reader may form a more exact idea of the agrarian reform in Finland, some remarks on the country and its population and some recent data are here added and may, it is thought, be of use.

The total area of Finland, viz., 34,363,000 hectares (132,608 sq. miles), not including the lakes, was distributed as follows in 1927: lands suitable for cultivation 2,160,000 ha. (6.3%), natural meadow and pasturage 1,195,000 hectares (3.5%), forests 25,300,000 ha. (73.4 %) and other types of land 5,708,000 ha. (16.8 %). These figures make clear the immense economic significance of the forests and of the timber industry in Finland. The division of the cultivable lands in 1927 was as follows: cereals, 828,147 hectares; potatoes, 70,533 ha.; root crops, 24,546 ha.; flax and hemp, 5,369 ha.; green forage, 16,503 ha.; hay, 1,010,613 ha.; fallow, 197,997 ha. and miscellaneous, 12,332 hectares. The population, on 31 December 1926, was 3,558,220 inhabitants, i. e. 9.2 inhabitants to the square kilometre, about 80 per cent. of the population living in the country and 20 per cent. in the towns. According to the census of 1920 there was in Finland a total population of 3,105,103 inhabitants, including 493,112 (15.88 %) urban population and 2,611,991 (84.12 %) rural population. The distribution of the population actively engaged in agriculture or living by agriculture without being engaged in it, the total of such population being 2,000,407 persons, was as follows: 1,978,627

persons occupied in agriculture and stock-breeding, 15,186 in hunting and fishing, 7,227 in forestry, 3,784 in horticulture, 2,035 in dairying, and finally 558 in the herding of reindeer in Lapland.

It may be mentioned that in the "International Review of Agricultural Economics" two articles appeared on the subject of home colonisation in Finland before the war: "Home Colonisation in Finland" in February 1913, and "The Results of Home Colonisation in Finland" in November 1916 and in January 1917.

I. — INTRODUCTION.

It is not possible, in a general sense, to apply to the agrarian policy of the Government of Finland the term "agrarian reform" in the sense in which it is current in the other countries of Europe. Only a single part of this policy, the enfranchisement of feudal holdings, is such that it could be called agrarian reform in this sense. The activity shown by the State in supplying lands to landless persons, and the assistance given under the form of loans to small holders, to enable them to purchase new lands to cultivate or to build upon, apart from the advice given in this respect, have all gone on without a break, and much has been effected thanks to voluntary surrenders of land. All this has been designated as State Land Settlement (*œuvre de colonisation de l'État*) a name which also usually includes the purchase of holdings.

1. Causes underlying the present land settlement work in Finland.

The development of the conditions of landed property at the end of the XIXth century had given rise to many abuses and social and economic evils. According to the statistical data collected in 1901, there were in the rural communes 478,142 households, including

110,629	or	23 per cent.	owning lands
160,525	»	34 » »	renting lands
206,988	»	43 » »	entirely without lands.

Thus hardly one-fourth of all households were land owners. Moreover in the three best cultivated departments of Finland, only from 11 to 13 of the households owned land. In the departments of the East and North, there was a proportionately larger number of landowning households, between 28 and 44 per cent.

Following the figures available, 41 per cent. of the cultivated lands belonged to the cultivators, while 59 per cent. were rented lands. In the best cultivated departments, the proportion was even more unfavourable the percentage of lands rented being 78 to 79 per cent.

According to the 1901 statistics, the distribution of the estates according to extent was as follows:

Size	Number	Area in hectares	For each size group, percentage of	
			owners	area
Less than 50 ha.	31,262	873,290	26.4	4.4
From 50 to 250	67,839	7,814,801	57.2	39.8
250 and over	19,525	11,215,665	16.4	56.8

It appears from these figures that among the land owners of Finland, 26 per cent. owned small estates, while 16 per cent. had large properties. There are reckoned among the land owners also the societies, communes, parishes, and the State

itself, in so far as it possesses lands, so that the number of land owners is not the same as that of the households which own land. Not more than 4.4 per cent. of the whole area of the estates was in the hands of the small owners, while the large owners held more than half. The percentage of owners having lands of more than 1000 hectares was 1.4 per cent., and they owned 17.6 per cent. of the whole area.

2. Tenancy or tenant farming.

To understand this institution fully, a brief explanation of its origin and development should be given.

The system of tenants rendering certain forced services, or the renting of parcels in return for cultivation, originated at the beginning of the XVIIIth century. It was at this time that the great landowners of Southern Finland began to establish on their lands feudal holdings from which they secured services, their motive in doing so being that they were in need of labour. Later in the same century, feudal holdings were also created on the lands of the peasants. The formation of these holdings was accelerated by the great sharing out of the undivided lands, by the land settlement in the State forests, and by the rapid growth of the population which from being 420,000 inhabitants in 1750 was quadrupled in 100 years.

Along with these holdings, there were also set up in the country districts dwelling huts to which hardly any cultivated land was attached, but which were hired out to artisans or seasonal workers for payments in kind or services.

In addition to the renting of parcels of land, *i. e.* of holdings and of huts, there is in Finland a system of renting of whole estates entered on the land survey which as regards administration are held from the large estates. These are the estates of the tenant farmers. The numbers of the different lands rented were :

Feudal holdings	68,532
Huts	84,221
Farms	7,772
Total	160,525

The institution of tenancy did not succeed in giving the use of the land and a fixed abode to more than a part of the rural population who were landless. The greater part of the landless population was, so to speak, floating, in the proper sense of the term. This section of the population went here and there to gain a livelihood, sometimes doing farm work for the peasant farmers, sometimes working in the forests or floating timber, going up and down the country great distances and sleeping in the living rooms or on the stoves of farmers, tenants or occupants of the huts.

The situation became worse when, beginning from the second half of the XIXth century, the landowners showed themselves no longer inclined to form any small holdings, since the high price of land and especially of the forests, in consequence of the establishment of the timber industry, the growth of the population and improvement of the means of transport, made relatively dear the labour of tenants formerly so advantageous to the landowners. The tenants' right to cut wood and to pasture their live stock in the forests was in particular a charge which acted as an inducement to the owners to join the tenants' lands to their own or to allow them to lapse back into forest. A certain number of holdings were at that time reincorporated in the estates and others became independent.

The agrarian question was still highly complicated towards the end of the century because the position of the tenants was not an equitable one and these latter became increasingly dissatisfied with existing conditions. The tenants felt that their position was uncertain as well as being one of dependence, their rights were vague and the forced services, in consequence of the rise in wages, seemed to be unjustly burdensome.

Turning to the economic aspect of the question, the enquiries made have in fact established that the farming standard of the rented lands was below that of the crops of the landowners of the same locality. According to the statistics of 1912, the "holdings" included 199,965 ha. of cropland and 104,474 of grassland, or in all 304,440 ha. of cultivated land. The greater part of these lay in the best cultivated departments. In 1910, the area of the croplands of the whole of Finland was 1,878,235 hectares and that of the grassland 959,407 hectares.

The economic disadvantages of the tenancy system were made greater by the defects of the system of forced service. According to the statistics of 1912, the number of days of work with horses thus given to the landowners was 596,260, while work services without horses were rendered for 1,788,408 days, the total thus being in that year 2,384,668 days of forced service. Taken at the average wage of 1912, these services represented a sum of 6,588,200 marks or 75 million marks at present day rates. The actual output or work rendered on one of these days of forced service is usually reckoned at two-thirds of the yield of a normal day. Hence the system was the cause of extensive economic losses.

It became necessary for the Government to devote attention to the state of affairs and to make some attempt at remedying the unfavourable lot of the tenants. In 1909, an Order was published the terms of which rendered their position reasonably secure. In each commune tenancy committees were appointed to supervise the relations existing between landlords and tenants. The influence of these bodies became later considerable, when the position of the tenants was regularised, and the lands so rented were made freehold. Public opinion gradually came to be that no definite improvement of the position of the tenants could be brought about except by the abolition of feudal holdings. In 1912 the Government appointed a Committee to draw up a plan for the purchase of rented lands, and the scheme was ready in 1914. The opposition of the Socialists, the world war and the war of independence brought about the postponement of the question till 1918, when the Chamber approved the law on purchase of holdings.

After the war, public opinion was convinced that the purchase of the rented lands ought to be carried out for reasons of internal peace and prosperity of the State.

3. The work of land settlement.

The figures already given have shown the extraordinary size of the floating population in Finland at the beginning of the century.

The object of the work of land settlement in its other aspect was to fix this population and to maintain the existence of small holdings. At the end of last century attention was already being given to this subject, and some experiments already been tried without definite result. In 1898, a loan fund was established for the landless population; later on, that became the land settlement fund and was used to finance the land settlement work of the State. The State directed work of land settlement has gone ahead much more rapidly since the independence of Finland. In 1918, a special bureau was created, the Land Settlement Department, for the purpose of directing the work.

The influence of emigration on the land settlement work in Finland must

be taken into consideration. Although emigration takes place on a large scale — in 1910 the emigration was 61.4 persons out of 10,000 inhabitants; in 1911, 29.9; in 1912, 33.8; and in 1913, 62.4; in 1923, 40.1 and in 1924, 15.6 — it does not play any decisive part in the policy of land settlement.

II. — THE LEGAL BASIS AND THE ORGANISATION OF LAND SETTLEMENT.

1. *The administrative bodies.*

The administration of the work of land settlement is vested in the Department of Land Settlement, to which are attached the land settlement committees and the tenancy committees in each province, as well as, in certain cases, the specially appointed Land Settlement Offices.

The Land Settlement Department acted as the directive organisation, beginning its work in 1918. As land settlement on the State lands and on those of private individuals is at present regulated by certain laws, the Department in question is responsible for the application of these laws. In accordance with these laws, the Department administers the lands rented from the State, directs land settlement in the State forests, acts as the executive body with the assistance of the land settlement committees, when it is a question of obtaining lands by expropriation, in accordance with the Settlement Law of 1922, on behalf of landless persons. It also supervises the tenancy committees who are the executive bodies in respect of the transformation of tenancies into freeholds. Any business relating to property illegally obtained by timber companies also falls to the Department, which also undertakes the supervision of the settlers' holdings when constituted.

An important part of the functions of the Department is to encourage the voluntary surrender of lands to landless persons. With this object, the Department arranges for a *land settlement fund* which amounted to 253.5 million marks at the end of 1928, and from which the Department makes loans, with the consent of the Ministry of Agriculture and through the medium of the communes, for the purchase of lands, for buildings and for cultivation; this fund is also used to purchase estates and to divide them between landless persons. The Department is also to supervise the land settlement carried out by the communes and by individuals, to draft building plans for settlers, to advise as to building and in general to guide the work of land settlement by taking the necessary steps to improve the lot of the landless population.

The Department of Land Settlement is of the nature of a *board* consisting of a general director, an advisor for settlement on the lands of private individuals, an advisor for settlement in the State forests and an assessor for the handling of legal questions. The Department includes the following sections: Farm Accountancy Office, State Lands Office, Office for Upkeep of the Forests, Building Office, Engineers' Office and Investigations Office. The Engineers' Office undertakes enquiries of a scientific and mechanical kind on the lands intended for land settlement, executes drainage works, and road-making on the settlement areas, and gives advice to communes and to individuals on the land settlement business connected with either. The work of the Investigations Office consists in collecting and publishing the statistics of land settlement and in making enquiries into the work of land settlement and into its position in the rural districts.

Among the officials attached to the Department, there are inspectors of State lands, ten in number, who supervise the upkeep of the estates; there are nine

land settlement inspectors who, each in his own area, are always on the spot to advise and direct the land settlement and tenancy committees; they also inspect land settlement banks, give advice to farm settlers on the best means of improving their economic condition, and carry out the duties entrusted to them by the Department for the encouragement of land settlement and the improvement of the situation of the floating population.

The land settlement committee, appointed in every rural commune, is expected to assist the Department in its work for the benefit of the landless population. As local authority and with the support of the commune and of private individuals, the committee is expected to try to arrange by amicable agreement for procuring land for persons not possessing it. But at the present time the whole of the State activity for land settlement is carried out primarily by the help of the land settlement committees. The committees administer the Land Settlement Fund of their commune, a fund which receives from the State subsidies from the general land settlement fund and which submits to the decision of the Department the applications for loans for land purchase, for building and for cultivation which are made by landless persons. On the application of such persons, the committees must examine into the cases and communicate to the Department particulars as to the private settlement holdings which could be formed on the State wooded lands situated in the commune. They should also propose the establishment of a Land Settlement Office, if it is their opinion that settlement could be carried out on a fair proportion of the lands. The compulsory expropriation of land for landless persons is also one of the duties of the land settlement committees. According to the law, landless persons should forward their applications for lands to the land settlement committees, and if land cannot be provided by voluntary cession, either on the State lands or on parish lands then the committee is to proceed, with the support of the land settlement inspector, to expropriation measures. The committees also have the duty of supervising settlement holdings, and, in virtue of the land settlement legislation, other duties also devolve upon them.

In each commune a land settlement committee has to be appointed. If in any commune the work falling to the committee is very light, the prefect may on the request of the municipal council, decide that the communal committee shall perform the functions of the land settlement committee. In accordance with the decision of the Department, the land settlement committee will consist of 3 or 4 members and the same number of substitute members, elected by the municipal committee for three years. One half of the members must be tenants or occupants of dwelling huts or owners of independent property consisting of holdings or of dwelling huts or of property coming under the legislation on land settlement in force or any property which may be regarded as analogous; the other half of the membership must consist of owners, tenants or managers of other types of property. The municipal committee has power to appoint in addition an advisor on land settlement and a treasurer, but if the municipal council does not take this action, these appointments must be made from among the members of the land settlement committee. The members elect a chairman and vice-chairman from outside their own numbers, but if a majority is not obtained at the time of the election, the district tribunal has the appointment. The land settlement committee works according to a programme approved by the municipal council and confirmed by the Department. The salaries of the members and of the advisors of the Committee are paid in advance from the communal funds, but for some part of the work done the State meets the whole, while for other parts it pays

half and the commune the remainder. In certain cases private individuals pay the committee. As regards the other expenses of the committee, the State provides one half. The law in force and the Order on the organisation of the land settlement committees are dated 5 May 1925.

In accordance with the Order of 1909 on tenancy, a tenancy committee must be appointed in each commune or more than one if the communal assembly decides in that sense. The number of the members of the committee varies, in accordance with the resolution of the general meeting of the commune between 2 and 4 and there are as many substitutes. They are elected for three years, half by the land owners, and half by the tenants. The members subsequently elect their chairman and vice-chairman from outside their number. The business of this committee is to watch the interests of the tenants at the time of the signing of the leases and to arrange for the registration by the tribunal of the contracts approved by itself. If disputes arise between the contracting parties, the committee should endeavour to reconcile the parties without bringing the matter into court.

According to the legislation on the purchase of rented lands, the committee is expected also to undertake the transformation of these lands into freeholds. Before the committee decides the question by means of a resolution, it should endeavour to bring about an understanding between the two parties on the purchase price. However, if the same landowner owns in one or more estates situated in the same commune a somewhat large number of rented lands, the committee may abstain from discussing the question and may request the prefect to appoint a land surveyor with a view to proceeding with the organisation of such lands. The emoluments of the committee for these purchase operations are entirely paid by the State. On the other hand, for handling of tenancy business, the State only pays the salary of the chairman, and what is due to the members is paid in advance by the commune which recoups itself at the time of the collection of the communal charges on the lessors and lessees.

Land settlement offices may be constituted for special pieces of work, such as the settlement of the wooded State lands.

2. Purchase of rented lands.

The law of 15 October 1918 with a few exceptions relates to leases of holdings and farms existing when the law came into force as well as to the dwelling huts, on condition that the tenant who is applying for the power to purchase has had the usufruct of the land for at least five years and has presented his application under the lease which was in force at the time of the coming into force of the law. If the tenancy right no longer belongs to the tenant who had usufruct at the time of the coming into force of the law, nor to his direct heirs, the right to purchase no longer exists. Even in the event of the stated conditions being fulfilled, the tenancy committee or the tribunal for the distribution of lands may, on examining the question of the purchase of a dwelling hut, refuse to the tenant the right to purchase, if the hut proper is in such a locality or if the buildings and conditions are such that the purchase would be useless and inadvisable from the point of view of future utilisation by the tenant.

The application for the purchase of a rented land may be presented by the lessor or by the lessee. The law renders the purchase obligatory only in certain cases; the two parties may agree between themselves on the extension of the lease in accordance with the Order of 1909 completed by the law of 13 May 1919. During the duration of such an agreement as to the extension of the tenancy,

the two parties have the right to apply for purchase. The lessor and the lessee may also freely come to an agreement on the purchase of the rented land by the latter, in which case the procedure is that prescribed for a sale of real property.

The application for purchase is submitted to the other party and forwarded to the tenancy committee, which is the intermediary between the two parties, viz., the lessor and the lessee.

To fix the area of a plot of land which will be purchased for the purpose of forming an independent holding, if the case is that of a farm or a holding, the basis taken by the law is that on the one hand there should be included all cultivated and cultivable lands belonging to the rented plot, and enough of the forest for the normal growth to meet the needs of the household, and that on the other hand a holding should be formed such that the owner with his family can live on it and make it pay as a farming proposition, and finally that the estate from which the rented plot is bought does not suffer too severe a loss and will not be damaged as a farm undertaking. For this reason it is prescribed in the law that a holding formed in this way should include the plot belonging to the farm or the holding, as well as cultivated and cultivable lands, in all ten hectares at most, or if the tenant makes the request for special reasons, such as the size of the buildings or the favourable position of the fields, and if it is proved that the need exists, then a larger area which must not however exceed 20 hectares.

If the tenant has had the right to collect forest products either on his rented land or outside of it, then on the new holding enough wooded land is given to meet the normal household requirements. For a rented plot where the total surface of cultivated and cultivable lands attached is five hectares at most, then the area of wooded land is ten hectares as a maximum. If the area of cultivated and cultivable lands is greater, then forest may be given up to twice the area of such lands, but not more than 20 hectares. On this point the interests of the lessor take precedence of those of the tenant, as the lessor is always to have all the wood he requires for his needs and the tenant must be content with what is left. If the tenant has previously been able to take clay or peat, on the estate lands, a corresponding quantity of clay or peat may be allowed for the requirements of the new property to be taken from a certain spot, if this can be easily managed and if the lessor has a sufficient extent of such land left to him. Similarly by the terms of the lease, if the tenant has had the right to fish in the waters of the estate, whether belonging to the owner or jointly owned, a proportional part of the fishing waters may be assigned to the new holding. Unless for practical reasons some other arrangement is made as regards buildings the tenant must purchase from the owner the buildings necessary for the cultivation of the rented land.

At the time of the purchase by the tenant the parcel of the dwelling hut includes the plot and the cultivated or cultivable lands which belong to it or a corresponding area. If it is thought practicable to increase or to diminish this plot it may be done. But in no case can an area of more than two hectares of cultivated and cultivable land be assigned.

There is no legal objection to the lessor and the lessee coming to an understanding as to the area of land to be assigned to the new holding, and as regards the different advantages going with it, even if the arrangement be other than is indicated here. In this case, execution must be given to the contract made between them, and this point applies also to the dwelling huts.

The tenant as a rule receives the lands previously belonging to the rented plot; if however practical considerations of the assignment of the crop lands of the estate

make it necessary, he may be established on another parcel of land, provided that this, from the agricultural point of view, has advantages corresponding to those which the tenant would under the law have enjoyed on the original parcel. A similar exchange is made if the land rented, from its utilisation for industrial purposes or for other reasons, has obviously a much higher value than could have been fixed if it were used solely as previously for farming purposes. In such cases exchanges of land based on some re-arrangement of parcels are effected. If the small extent of the estate makes such exchanging impracticable, or if it would involve reduction of the lands left to the estate below the limit fixed by law, or furthermore if reasonable farming conditions make it essential that the rented land should be reunited to the main estate, then the area of the land to be purchased may be reduced or the purchase may even be prohibited.

If the parties are not agreed on the purchase price, it is prescribed that in order to fix it, the value of the plot is first estimated as at the moment when the application for purchase is made. From this is deducted the value of the improvements made by the tenant in the course of his lease, or executed by his immediate predecessor, or of those to which he has acquired rights by paying the amount of the transfer. After that there is a further deduction made for the total increase in value taking place after the outbreak of war in 1914, including the rise due to the fall in the value of the currency. Such is the method of calculating the purchase price for cultivated or cultivable lands, with the conditions however that the area does not exceed 10 hectares. For any land in excess of this the market price at the time of the application for expropriation is paid. If the area of cultivated and cultivable lands is 5 hectares at the least, then 10 hectares of wooded land at most are purchased at the lowest price. If the parcel to be purchased is from five to ten hectares, there may be obtained, at the lower price, in wooded land at most twice the area of the cultivated and cultivable lands; and if more than 10 hectares of crop lands are being purchased, then at most 20 hectares of wooded land. For surplus wooded land, the price ruling at the time of the application for purchase is to be paid, at least unless the two parties have otherwise decided. If on the wooded land to be purchased there are growing trees with a diameter of 20 cm. at a height of at least 1 m. 20 from the ground the purchase price of this forest must be estimated separately on the basis of the price ruling. If the tenant does not wish to purchase these trees, the lessor has the right to cut them down and to cart them away within a period of three years at most from the date of the purchase. Just in the same way as the improvements are reckoned to the benefit of the tenant, the value of any damage done for which the tenant has to pay compensation at the end of his lease is reckoned to the benefit of the lessor when the purchase price is calculated. The above provisions are applicable, as appropriate, to the plots belonging to the dwelling huts.

In order to facilitate the payment of the purchase price by the tenants, and when the tenant desires to profit by such an arrangement, the State pays to the landowner the purchase price for the land rented and for any special rights that may attach to it, either in money or in bonds with State guarantee, or by both methods. That part of the purchase price which is to be paid according to the market or ruling price is not however paid out of public funds, except for valuable trees. The owner of the new farm is expected in his turn to repay the purchase price by annual payments of 6 per cent., of which 5 per cent. form the interest on the still unpaid capital and one per cent. the amortisation of the principal. The new owner has moreover the right to pay off his debt by means of larger instalments or to repay the whole in one sum. On the other hand, in case of need the new owner

may be permitted to postpone commencement of amortisation of the purchase price paid by the State till after the lapse of ten years counting from the date of inscription of the new holding on the Land Register. Even in the event of the lessor and lessee having come to a voluntary agreement on the surrender of the rented land, the tenant may if he so desire benefit by the State aid, as explained, for the payment of the purchase price. However, if this price is obviously higher than it would have been if the purchase had been effected in accordance with a decision of the tenancy committee or the tribunal, then the State can only advance the sum which would have been thus fixed. In the same way, if the parcel to be purchased includes more than 10 hectares of cultivated or cultivable lands, or if the new holding is to have attached to it more extensive special advantages than those prescribed by law, the sum payable by the State must be reduced to that which corresponds with the normal area and advantages. The State is the creditor with first claim on the repayment of the purchase price and a mortgage can be arranged on the purchased property without reference to the new owner.

The conditions relating to the purchase price hold good equally in connection with the dwelling huts, except that the owner of the new holding must repay the State advances by annual payments of 8 per cent. on the purchase price, 5 per cent. being interest and 3 per cent. amortisation of the principal.

The law provides that the lessor and the lessee may come to a voluntary agreement on the purchase by the latter of the rented land or of some other parcel in exchange. If this agreement is not come to, but if either the lessor or the lessee desires the purchase, he must make a statement to that effect before witnesses to the other party and also to the tenancy committee of his commune or of his district, which must then consider whether it would be of advantage, either because the same owner possesses in the same commune a somewhat large number of rented lands which are liable to purchase under the law, or for some other reason, to fix at one and the same time the purchase price of all these lands or the greater part of them. In this event, the committee applies to the prefect to appoint a land surveyor to execute this work. If the prefect is of opinion that there is insufficient ground for such action, or if the committee considers that the systematisation of these rented lands is not necessary, an endeavour should be made, when an application for purchase has been presented, to effect a friendly arrangement between the parties. If this proves impracticable, the committee summarily decides the matter by means of a resolution. An appeal may be lodged against this resolution before the tribunal for land distribution. If the systematisation is to be carried out the surveyors must settle which lands are to be purchased together, establish the boundaries of the parcels for this purpose and also make clear the special rights or advantages belonging to each, determine the purchase price and indicate the method by which it is to be paid or amortised, as well as the other conditions of purchase. It is their duty also to prepare a scheme for distribution of the parcels. If one of the parties refuses to abide by the decision of the surveyors, the whole business is transferred to the land distribution tribunal. This tribunal further deals with all disputes in regard to purchase matters arising out of the law. These provisions also apply to land on which stand dwelling huts. Appeal may be lodged with a higher court against a judgment of the land distribution tribunal.

The law of which an outline has just been given relates to the purchase of rented lands, situated on private estates. It has been supplemented by other laws which apply to rented lands and to fishery rights in the forests which are ecclesiastical or public property and on State property. In this legislation the

principles of the law of 1918 are followed and that law must be applied strictly in regard to the points to which it relates. In consequence however of the special nature of fishing rights, provisions relating to these lands differ very markedly from the remainder of the legislation of the purchase of rented lands. It is unnecessary to give here any full statement of the legislation relating to these rights, especially as their number is much fewer than that of the crop lands situated on private estates.

All the parcels to which the process of purchase set out in the law is applicable are detached so as to form independent parcels. In so far as recourse has been had to State aid for their purchase, they remain under the provisions of the land settlement law in force. The new holding is regarded as the property of the tenant from the time that the transfer has been registered in the Land Register. The new landowner comes into possession on the conditions laid down in the decision regarding the purchase of his holding, *i. e.*, either 1 March, or 1 November according to the date of registration.

3. Land settlement on the State wooded lands.

Settlement on the State wooded lands falls under the law of 20 May 1922, amended by that of 20 May 1927. This law affects 12,752,794 hectares of wooded lands belonging to the State and 2,868,581 hectares of the area which form the State parks.

Before proceeding to settlement on the State wooded lands enquiries must be instituted and it must be ascertained what lands are the most suitable for cultivation. The wooded lands previously examined and passed as suitable for cultivation have a total area of 54,382 hectares. The Land Settlement Department carried on these investigations and between 1918 and 1925 inspection had been carried out on 144,021 hectares of marsh land, 76,184 of these being inspected from 1923 with the help of the Society for treatment of marsh land. At the end of 1928, such inspection had been made of 119,459 hectares, of which 42,464 have been passed as fit for cultivation. In addition to investigations on the possibilities of cultivation, the Engineers' Office of the Department of Land Settlement has carried out mechanical investigations for the drainage of the marshes. For any fairly large area, the Department appoints a land settlement office which is to prepare a scheme of land settlement. The chairman of this office is an engineer land surveyor, and there are four members, one of whom is appointed by the Department of Land Settlement, one by the Department of Forests and two by the land settlement committee. These four members are selected from among persons in the neighbourhood who are well acquainted with agricultural questions. So far as possible the office should take care that the wooded lands remaining to the State are not parcelled out in a disadvantageous way, and that there are not taken for land settlement lands required for the needs of the State, or of the commune, or of importance to the general interests, or such lands for which there would be considerable expenses for draining and clearing.

The holdings under cultivation must be large enough to provide a living for the cultivator and his family. To estimate the extent required, the needs of a family of four adult persons capable of working must be taken into account, together with the area which it is considered such a family can conveniently cultivate with its own work capacity. It should be so arranged that these holdings, once put in order, should include from 5 to 15 hectares of fields and that it should be possible to feed from 6 to 10 cows and 2 horses. If the holding consist mainly of natural

grassland, then it should be possible to feed at least one horse and from four to six cows. Enough wooded land must go with the holding to provide at least for ordinary domestic needs the wood being in normal growth conditions; in other words in South Finland and similar regions at most 30 hectares, in Lapland and the similar regions of North Finland at most 110 hectares of forest in growth. The larger land drainage works, such as the sinking of drains, are carried out under the direction of the Engineers' Office of the Department of Land Settlement, and the expenditure incurred is noted at the time of fixing the price of the holding.

The construction of roads leading to the settlement area is also carried out under the supervision of the Department. The inhabitants and generally speaking all persons using these roads are expected to put down sand as required and get the roads into good order.

When the land settlement scheme is complete and when the Surveyors Office of the administrative area has given its opinion, the Department of Land Settlement examines the scheme and submits it to the approval of the Council of Ministers. When that is given, the settlers can be installed. Parcels are assigned to the settlers with right of ownership at a price which must not exceed that ruling in the region. The amount is paid to the State in 53 years, no payments being due in the first years. To meet the cost of the clearing of lands, which the owner has brought under cultivation in the course of these first ten years, taking local conditions into account, a cultivation premium is assigned to him, in so far as there is subtracted from the price of the property the cost of the clearing; not more however than 700 marks per hectare is to be paid in Southern Finland and 1000 marks in Lapland and in the districts of Northern Finland which resemble Lapland.

If an individual desires to form a holding on any of the State wooded land, he must apply to the local land settlement committee. The chairman of this committee, the forest inspector of the region and a farmer of the locality appointed by the committee, carry out an inspection of the plot mentioned in the application. If it is thereupon ascertained that a holding can be formed, the experts draw up a scheme for the purpose, after which the committee sends the documents, with its opinion, to the Department of Land Settlement. The Ministry of Agriculture makes the final pronouncement on the formation of the holding, after consultation with the Department of Forests. When an engineer has prepared the final draft, the Ministry of Agriculture approves the scheme authorising the formation of the holding. The applicant has the right to begin to cultivate his holding and to build as soon as the Minister has decided to permit the formation of the holding.

Some account has already been given of the by purchase of the rented lands situated in the State forests. The same procedure is not followed in connection with the formation of settlers' farms; the competent forestry inspector must be informed of the application for purchase and afterwards a written application, with the inspector's certificate attached, must be made to the Surveyors' Office of the area for the appointment of an engineer-surveyor to deal with the question of purchase. Such a purchase of a rented land and its transformation into an independent holding are carried out, as was stated, essentially according to the provisions of the law of 1918 on land purchase. The purchase of the lands belonging to forest rangers depends on the possible demand for these lands for the accommodation of forest rangers and overseers. If rented land is required for State purposes or for any general purpose, the tenant has the right to purchase a cropland holding in some other convenient locality, and in that case the State refunds the cost of building and clearing. The Department of Forests safeguards the State interest in regard to purchase operations.

4. Farms on State lands.

On the lands owned by the State of Finland there are 865 farms with a total area of 266,290 hectares. These were for the most part of the nature of allowances made to retired officials. From the beginning of the XIXth century, it was the practice to let these farms. In 1926 a new law was passed in regard to them. Previously, tenants put in on lands of such farms enjoyed a right of purchase. But the actual tenant of the farm or of any holding formed out of such a farm had not this right. The sale of farms on State land was prohibited. According to the legislation at present in force, the Council of Ministers has the right to sell the farms on State lands or parts of them for land settlement or for the purposes of communes or in the public interest. Before this sale takes place and if possible before the end of the lease, each farm must prepare a scheme for its future working. Parcels which it might be thought uneconomic to maintain in connection with the estate, and which would not be useful for State institutions, may be utilised as agricultural holdings or for homesteads or as additional lands for settlement. If the farm has lands which are valuable from their position or are better adapted for industry than for settlement, they should not be used for the latter purpose. Agricultural holdings or homesteads thus formed, and even estates which include at the most, apart from natural meadowland unsuitable for cultivation, 25 hectares of cultivated and cultivable lands, may be sold to supply lands for settlement at prices in accordance with the law on settlement and to persons who are entitled to lands under this law.

The scheme for utilisation of the farms on State Lands is drawn up by the Committee for Farms on State Lands, the chairman of which is a person well acquainted with agricultural questions and land settlement, appointed by the Department of Land Settlement. The members include a forestry expert appointed by the Department of Forests and the chairman of the land settlement committee of the commune. The Ministry of Agriculture approves the scheme of utilisation.

(To be continued).

Land Settlement in the Spanish Zone of Morocco.

The Department of Land Settlement which was established in the Spanish Zone of Morocco in 1927, is an organisation the function of which is to develop the natural wealth of the territory and to promote its economic activity. An examination of the results obtained up to the present will be the best proof of the advantages of the establishment of this Department.

Experimental Schools of Agriculture have been formed at Melilla and Larache and the farm buildings belonging to these have been reorganised. The nurseries attached to these schools have distributed more than 500,000 plants to associations, etc. and to farmers. Extensive grounds for agricultural experiment and demonstration, laboratories for chemical analysis and plant pathology, farm machine and implement showrooms, enable these schools to be of the greatest service to the farming class and to give the young Spaniards or Moroccans, of the region, an excellent course of instruction, including all improvements in agricultural practice and the most modern systems of cultivation.

Rural welfare is not forgotten, and the buildings belonging to the Schools are supplemented by houses for the accommodation both of the married students and of those who are single, the quarters being laid out artistically and in good taste.

A school of the same kind at Tetouan will be shortly ready for the farming class of the Central region of the zone.

Local Agricultural Propaganda Offices have been set up and organised in the main localities of the territory as branches of these schools; the work of these offices is to diffuse more readily throughout the whole Zone agricultural instruction and its benefits. An organisation of this kind is at work at Tzelata de Raixana, and there are three others which deal especially with olive growing, in the regions of Melilla, Gomora and Beni-Scar. Very well-equipped oil factories are attached to these offices, and with the guidance thus afforded, full advantage will be taken of the excellent conditions offered by the Zone for the development of the wealth in olive trees on a territory which is of no great extent.

Cotton growing trials have been carried out, as also mulberry growing experiments in connection with the silkworm breeding which has given good results. A land improvement scheme is under discussion for the valley of Alhucemas, and it is proposed to establish on these lands which are at present only swamps the same luxuriant and progressive cultivation as is to be found on the gardens of Valencia. This plan of agricultural improvements will extend to the whole of the Kabylie, in accordance with a wide scheme required in the public interest for the development of the agricultural prosperity of the zone.

The Forestry departments at present confine their activities to the establishment and upkeep of three magnificent nurseries, at Rio Martin, Larache and at Ségangan, as well as to the work required for the fixation and plantation of dunes. These services must however be developed later on a large scale so as to effect the systematic working of the forests of the Rif and of Beni-Aros, which constitute perhaps the greatest wealth of the zone.

All the lower and intermediate slopes of the mountain chains are covered with English oak and cork oak, while on the higher parts there is a predominance of cedar and fir.

With a view to the rapid exploitation of such important forest resources, measures will shortly be passed to facilitate the employment of experts, of capital and private industry, the whole being guaranteed by the intervention of the officials of the Moroccan Forest Administration.

While delimitation of the property of the Maghzen (or Khalifa) and that of the native lands held collectively is proceeding, land settlement is confined to the division into lots of the rural land in private ownership, purchased in the *pachaliks* of Larache, Arcila and Alcazarquivir, and of some few lands of the Maghzen, and the assignment of such lands to cultivators on advantageous terms.

The movement towards association in the zone of the Spanish Protectorate is based on the Dahir of 6 February 1928 regulating the formation of agricultural unions covering a number of different activities and exercising considerable influence on the progress of native agriculture and the work of land settlement.

By a previous Dahir, dated 25 November 1926, agricultural credit was established, and *pósitos* set up in various localities and a Council of agricultural credit at Tetouan. The different credit activities have been regulated by a series of Dahirs, and some thousands of small loans have been made to a total value of 1,400,000 pesetas.

Stock breeding, which is mainly carried on by the Kabyles, has been practised on primitive lines, and the Department of Land Settlement is enquiring into methods of improvement. By recent Dahirs, exportation or slaughter of cows is forbidden, and measures have been enacted for preventing the spread of epizootic diseases.

In relation with the Central Institute of Meteorology at Madrid, meteorological

stations have been established at Melilla, Tetouan and at Larache, and rain gauges have been installed in a number of other places.

The Department, finally, undertakes the development of trading and industrial activity. In view also of the legendary interest of the Moorish civilisation, it encourages, as an asset of great value for the public and private economy, the tourist trade in the zone, the artistic treasures of which may be fitly compared to those of Granada, Toledo, Seville and Cordova.

The above represents the main features of the work of the Department of Land Settlement.

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TORREJON BONETA, Ing. agrónomo. Informe de la Dirección de Colonización del Protectorado Español de Marruecos.

AGRICULTURAL LEGISLATION

A Glance at the Recent Legislative Measures relating to the raising of wheat customs tariffs, the fixing of wheat prices, the maintenance of a proper wheat supply, the wheat market and the promotion of wheat cultivation in France, Germany, Italy, Portugal, Rumania, Spain, Switzerland and Uruguay.

France. — Décret portant relèvement des droits de douane sur le froment, l'épeautre, le méteil et leurs dérivés. 23 mai 1929. — Journal Officiel, n. 120 (24 mai 1929).

Loi portant modification des droits de douane sur les céréales panifiables, leurs dérivés, etc. 18 juillet 1929 — Journal Officiel, n. 172 (24 juillet 1929).

Arrêté portant création d'un comité d'organisation de la fête du blé. 31 juillet 1929. — Journal Officiel, n. 180 (2 août 1929).

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RAISING OF THE CUSTOMS TARIFF ON WHEAT. — The customs tariff on cereal has been increased as follows :—

Number of Tariff	Nature of Article	Unit on which duty is payable	Previous General Tariff	New General Tariff
68	Wheat, Spelt, Meslin : —		frances	frances
	Grain	100 kg.	35	50
	Grains crushed and bran meal containing over 10 % of flour.	"	60	80
	Flour and Meal : —			
	Bolting at 70 % or over	"	60	80
	Bolting between 70 % and 60 %	"	72	100
	Bolting at 60 % and under	"	80	115
75	Ship's biscuits and bread	"	35	50
Ex. 76	Groats, Semolina (coarse flour) pearled or hulled grain, flakes grits and other similar products of wheat, spelt and meslin.	"	80	115

In the case of cereals there is no minimum tariff, the general tariff being still applicable.

WHEAT DAY. — There has been set up at the Ministry of Agriculture a committee for organizing a Wheat Day when the prizes will be awarded to the winners of the wheat competition. The Order gives the names of the members of the Committee.

Germany. — Gesetz über Vermahlung von Inlandsweizen. Vom 4 Juli 1929. — Reichsgesetzblatt, Teil I, Nr. 27 (6 Juli 1929).

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The object of the measures taken in Germany as the result of the Law of 4 July 1929 on the milling of national wheat is to give fair protection to growers of German wheat by obliging millers to use homegrown wheat.

The law lays down that all mills situated in the German customs territory are required to mill during the period running from 1 August 1929 to 31 July 1930 a quantity of homegrown wheat equal to at least 30 % of the total amount of wheat milled by them during this same period. This minimum figure is raised to 40% for the period running from 1 August to 30 November.

The Reich Minister of Food Supply and Agriculture is authorized to raise this percentage in the case of mills which have a productive capacity of more than 20,000 kilograms of wheat per twenty-four hours and which during the period running from 1 August 1928 to 31 July 1929 have milled over 30 % of homegrown wheat. He has also the power to raise the proportion of homegrown wheat to be milled according to the results of the current harvest as soon as it has been evaluated officially.

In calculating this percentage account will not be taken of the quantity of wheat used for the production of flour destined for exportation, nor of hard wheat milled for the preparation of hard semolina.

The Reich Minister of Food Supply and Agriculture has the right to order, in substitution of the system indicated above, that mills may only produce flour which contains 30 % homegrown wheat. An exception is of course made in the case of wheat intended for exportation.

In the event of an unjustified rise in the prices of wheat or bread the Minister is authorized to suspend the application of the law insofar as regards the obligation of the mills to mill homegrown wheat in the proportions specified or to reduce these percentages temporarily.

The law in addition contains rigorous provisions intended to ensure the strict application of the provisions summarized above.

All mills having a productive capacity of 20,000 kilograms in 24 hours are required to present, at latest the 5th of each month commencing from October 1929, to the Reich Ministry of Food Supply and Agriculture reports specifying the quantity of home-grown and of foreign wheat milled.

Further they are required by 5 December 1929 at the latest to forward to the Minister in question a comprehensive report indicating the total quantity of wheat milled by them during the period from 1 August to 20 November distinguishing between homegrown and foreign wheat. The reports must be signed by responsible persons and accompanied by a declaration made by them to the effect that the figures given correspond to the facts.

Any person who intentionally or as a result of negligence does not fulfil his obligations with respect to the proportion of homegrown wheat he is to mill is liable to a fine which may reach a maximum of 10,000 marks.

Italy. — Regio decreto-legge 23 maggio 1929, n. 760, Modificazione al trattamento doganale del frumento, del granturco bianco e di taluni derivati. — Gazzetta Ufficiale, n. 121 (24 maggio 1929).

Legge 27 giugno 1929, n. 1037, Proroga del divieto di esportazione del frumento. — Gazzetta Ufficiale, n. 150 (28 giugno 1928).

Legge 8 luglio 1929, n. 1262. Conversione in legge del R. decreto-legge 23 maggio 1929 n. 760, che modifica il trattamento doganale del frumento, del granturco bianco e di taluni derivati. — Gazzetta Ufficiale n. 177 (31 luglio 1929).

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RAISING OF THE CUSTOMS TARIFF. — On and from 24 May 1929 the general importation duty on wheat No. 64 of the Tariff is raised from 11 gold liras per 100 kg. to 14 gold liras.

As a result the general customs tariff is modified as follows :—

Tariff Number and Letter	Description of Article	Unit on which duty is reckoned	Basic dues in gold liras		Rate of Increase
			Previous Tariff	New Tariff	
64	Wheat	100 kg.	(11)	14	—
67	Maize :				
(a)	White	"	(7.50)	14	—
70	Flours :				
(a)	Wheat	"	(16.75)	20.30	—
(c)	White maize	"	(11.50)	20.30	—
71	Semollinas	"	(22.75)	25.50	—
72	Wheat <i>pasta</i>	"	(16)	26.00	—
73	Bread and Ship's biscuit	"	(16)	26.00	—

PROHIBITION EXPORTATION. — The prohibition on the exportation of wheat is maintained in force until an indefinite date.

Portugal. — Nova Publicação, rectificada, do decreto nº 16 : 631, que eleva o imposto sobre o trigo exótico cuja importação foi autorizada pelo decreto nº 15 : 914. 18 março 1929. — Diário do Governo, I Série, nº 104 (9 de maio 1929).

Decreto nº 17 : 003. — Introduz alterações á pauta de importação, respeitantes a cereais panificados. 21 de Junho de 1929. — Diário do Governo, I Série, nº 139 (21 de Junho de 1929).

Decreto nº 17 : 138. — Fixa o preço do trigo nacional para vigorar durante o anno cerealifero de 1929-1930. 23 de Julho de 1929. — Diário do Governo, I série, nº 166, (23 de Julho de 1929).

Decreto nº 17 : 252. — Aprova as bases para a organização da campanha do trigo em 1929-1930. 16 de Agosto de 1929. — Diário do Governo, I série, nº 191 (21 de Agosto de 1929).

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CUSTOMS TARIFFS. — The importation tariffs relating to breadmaking cereals (art. 474) is amended as follows :—

Maximum Tariff = \$02 per kilogram.

Minimum Tariff = \$02 per kilogram.

TAX ON IMPORTED WHEAT. — The tax on foreign wheat imported into Portugal is raised to \$37 per kilogram in the case of wheat imported by the port of Lisbon and to \$34 per kilogram on that imported through the Porto customs ; these are the only two customs authorized to import wheat. The rules on the importation of foreign wheat laid down Decree No. 15.914 of 24 August 1928 continue in force except for the raising of the customs tariff as above-mentioned. This augmentation is from \$30 to \$37 and from \$27 to \$34 for the ports of Lisbon and Porto respectively.

PRICE OF HOMEGROWN WHEAT. — There are maintained in force for the cereal growing year 1929-30 the prices of homegrown wheat laid down in the appendix to Decree No. 15,914 of 24 August 1928.

WHEAT CAMPAIGN. — Portugal has followed Italy's example and initiated a wheat campaign. A Decree of 16 August 1929 approves the basic principles of the organisation of the forthcoming wheat season 1929-30; the campaign which is directed by the Minister of Agriculture has as its immediate object to increase production and bring it up to the level of national consumption, and as an indirect object to honour agriculture as the most noble and important of industries and as the first coefficient of national prosperity.

In order that these objects may be attained the wheat season shall be put into the hands of certain special organs who are to work in close collaboration with the Ministry of Agriculture. These are to be the Central Junta, District, Municipal and Parish Commissions.

In addition to these Commissions there are instituted Honorary Councils composed of an unlimited number of members who are to be all persons able in view of their prestige and expert knowledge to facilitate the action of the Central Junta and of the Commissions. The Grand Honorary Council shall be presided over by the President of the Republic; the Vice-President is to be the Head of the Government. The Ministers of the various departments are to be *ex officio* members, the former Ministers of Agriculture, the Directors of the Higher Institute of Agriculture and the Higher Veterinary College, the President of the Directorate of the Central Association of Agriculture, the Presidente of the Federations of Agricultural Syndicates of the North and the Centre.

The wheat campaign shall be conducted by means of propaganda, technical and financial assistance, direct exploitation of uncultivated lands for demonstration purposes, the provision of agricultural machines and material, facilities for the purchase and selection of seeds and fertilizers, premiums and subsidies for wheat cultivation.

The Minister of Agriculture shall in addition grant a subsidy of 100 milreis per hectare of uncultivated or vinegrowing land which is to be cleared and used for wheat growing provided the Central Junta has expressed its favourable opinion.

For this first wheat campaign there have been instituted three national premiums and thirty district premiums to be awarded to the farmer who obtains the highest yield per hectare during the 1929-30 harvest. In the case of a tie, preference shall be given to the wheat having a greater specific weight per hectolitre and to the most expensive area sown.

The first national prize is 30,000 milreis, the second 20,000 milreis and the third 10,000 milreis. In each district there will be a prize of 5,000 milreis and others of 3,000 milreis.

Rumania. — Decret regal. — Aprobarea taxei de import la grâu. 8 Iunie 1929. — Monitorul Oficial, n. 124 (10 Iunie 1929).

Lege pentru alcătuirea tarifului vamal. 29 Iulie 1929. — Monitorul Oficial, nr. 166 (30 Iulie 1929).

Decret regal. — Comisiunea pentru studiul organizarii comertului de cereale. — 3 August 1929. — Monitorul Oficial, n. 175 (19 August 1929).

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IMPORTATION TARIFF. — The importation tariff on wheat is from 8 June 1929 raised to 160 lei per quintal.

CEREALS TRADE. — There is constituted at the Ministry of Agriculture and Domains a Commission for the study of problems arising out of the cereals trade, the organization of the market, the construction of silos, transport, warehousing, prices and all other matters relating to the cereals trade.

Spain. — Real Orden estableciendo desde el día 16 del corriente mes de julio hasta el 15 del dicho mes de 1930, con carácter obligatorio, la tasa mínima para el trigo nacional. 15 julio 1929. — Gaceta de Madrid, n. 197 (16 julio 1929).

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MINIMUM PRICES. — The above Order provides for the compulsory adoption on and from 16 July 1929 until 16 July 1930, of a minimum price for homegrown wheat. This price is fixed according to a scale ranging from 46 pesetas per quintal to a maximum of 48 pesetas. The scale is graduated as follows :—

First Period. — 46 *pesetas* per quintal during the second half of July and for the whole of August and September 1929.

Second Period. — 46.50 *pesetas* during the months of October, November and December 1929 and during January 1930.

Third Period. — 47.50 *pesetas* from February to May 1930.

Fourth Period. — 48 *pesetas* during the month of June and the first half of July 1930.

The wheat in respect of which these minimum prices are payable must be sound and clean, of good market quality, loaded on truck in the station of origin or on a road vehicle ; in the last mentioned case the minimum price includes the cost of transport up to a distance of 5 kilometres from the mill, the transport cost for these remaining 5 kilometres being paid by the mill.

Purchases and sales of wheat at prices lower than the minimum prices shall be considered as illicit speculations in foodstuffs, according to the terms of art. 9, par. 3 of the Royal Decree of 3 November 1923 (1) and shall be punished by confiscation of a sum fixed at one half of the value of the goods in addition to the corresponding fine.

In view of the fact that purchases of wheat at lower prices generally take place without any fault on the part of the vendors who are forced to sell by personal necessities, the above mentioned sanction will only be applied to the purchaser and never to the vendor ; the latter is not only exempt from all liability but is entitled to the difference between the minimum price and the price at which the wheat was actually sold. This difference will be deducted from the sum obtained by confiscation as due above, of 50 % of the value of the merchandise in question.

Payments due in respect of contracts for the sale of wheat will be made at least at the minimum price established for the month when the wheat was actually sold, irrespective of the date when these contracts were concluded. In other words, no sale of wheat will be allowed at prices lower than the minimum price in force at the date when the payment is to taken place.

A Commission is set up to have cognisance of all matters arising out of the application of minimum prices, the hearing of petitions and the settlement of all disputes relating to this question.

LOWERING OF MINIMUM PRICES. — In the case of wheat of inferior quality the authorities may where advisable authorize sale at a price lower than the minimum price by 1.50 pesetas per quintal if the interested parties make application to that

(1) See: *International Yearbook of Agricultural Legislation*, XIIIth year 1923, p. 188.

effect and after holding a formal investigation. The authorities may, in the case of wheat which has deteriorated as the result of disease or insect pests, authorize the sale after estimating the extent of the depreciation.

FIXING THE MAXIMUM PRICE. — The maximum price for homegrown wheat is fixed at 53 pesetas per quintal, at the mill.

C. A.

NOTIFICATION OF STOCKS OF HOMEGROWN WHEAT. — All wheat producers are required to present to the municipalities before 15 October 1929 a sworn declaration of the amount of wheat harvested by them.

All mills having a milling capacity of not less than 5000 kilograms per day are required to submit to the Municipalities every month 4 sworn statements of the quantities of wheat purchased by them, the commune or locality of provenance as well as the name of the vendor.

Failure to present these sworn statements or the presentation of false statements either by producers or millers will be punished in accordance with the sanctions established by the law.

The *Alcaldes* shall immediately forward these declarations to the competent Provincial Junta of Supply and the latter shall forward to the General Department of Commerce and Supply, the notifications of wheat producers not later than 1 November and those of the millers not later than the tenth day in each month.

COMPOSITION OF FLOUR MIXTURE FOR MILLING. — Millers who have imported foreign wheat for the purpose of mixing it with homegrown wheat in accordance with the legislation in force are required to observe the milling rules applicable to this class of wheat ; the only modification is in the composition of the mixture which must in future contain 75 % of homegrown wheat and 25 % of foreign wheat, instead of the 50 % mixture prescribed before the publication of the present Order.

The millers are required to demand the necessary authorization for milling these cereals from the President of the Provincial Supply Junta, appending the necessary documentary certificates proving that they possess three times as much homegrown wheat as foreign wheat ; in the absence of such proofs the authorization will be refused.

OFFICIAL MEDIATION FOR THE SALE OF NATIONAL WHEAT. — Cultivators wishing to sell their wheat may, if they wish, address themselves to the Provincial Supplies Junta specifying the class, quantity and price of the wheat.

Similarly millers intending to purchase wheat may address themselves to the Juntas in order to ascertain the offers already made and freely make the purchases they think advisable.

The Provisional Supplies Junta shall submit a monthly account to the General Trade and Supplies Department of the total of the offers of sale received by them from cultivators and of applications for purchases received from the millers.

FIXING FLOUR PRICES. — The prices of breadmaking flours shall be determined by the Provincial Juntas. For this purpose they shall apply the formula on wheat milling rates established by the decision of the Central Junta of December 1924 ; according to these rates the value of wheat and its by-products is estimated by calculating the average market quotations for the previous month.

The Provincial Supplies Juntas must take special care to ensure that bread-making flours the prices of which have been determined in this fashion satisfy all

the necessary conditions as regards quality and yield, that they are milled in each mill in sufficient quantities and in a manner in keeping with usage and practice during preceding years.

The Order, lastly, introduces other measures dealing with the organization of the service of minimum prices control, wheat transactions, milling, etc.

Switzerland. — Legislative provisions regarding the Wheat Supply.

Arrêté fédéral constatant les résultats de la votation populaire du 3 mars 1929 sur la demande d'initiative visant l'insertion d'un article 23-bis dans la Consitution fédérale (approvisionnement du Pays en blé). 20 juin 1929. — R.d.L.F. n. 17 (26 juin 1929).

Arrêté fédéral portant réglementation provisoire de l'approvisionnement du Pays en blé. 22 juin 1929. — R.d.L.F. n. 17 (26 juin 1929).

Ordonnance d'exécution de l'arrêté fédéral du 22 juin 1929 portant réglementation provisoire de l'approvisionnement du Pays en blé. 28 juin 1929. — R.d.L.F., n. 18 (28 juin 1929).

Arrêté du Conseil fédéral sur le contrôle des céréales. 28 juin 1929. — R.d.L.F., n. 18 (29 juin 1929).

Règlement de la Commission fédérale des blés. 28 juin 1929. — R.d.L.F. n. 19 (3 juillet 1929).

Arrêté du Conseil fédéral concernant la perception d'un droit d'entrée supplémentaire sur le blé panifiable (froment, seigle épeautre et méteil de froment et de seigle). 28 juin 1929. — R.d.L.F. n. 18 (29 juin 1929).

Arrêté fédéral promulguant la loi du 27 septembre 1928 modifiant l'art. 14 de la loi fédérale du 10 octobre 1902 sur le tarif des douanes suisses. 19 juin 1929. — R.d.L.F. n. 17 (26 juin 1929).

Ordonnance provisoire sur le calcul et la perception des droits de statistique dans le trafic des marchandises entre la Suisse et l'étranger. 19 juin 1929. — R.d.L.F. n. 18 (29 juin 1929).

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As a result of the referendum of 3 March 1929 which accepted the insertion of a new article — Art. 23 bis — in the Federal constitution, a Federal Order of 20 June 1929 established that the new article should enter into force on that day.

The text of the new article is as follows:—

« Art. 23 bis. — The Confederation shall maintain the wheat supplies necessary to ensure a proper supply for the country. It has power to compel millers to stock wheat and acquire reserve wheat in order to facilitate its renewal.

« The Confederation shall encourage wheat cultivation in the country, promote the selection and the acquisition of indigenous seeds of good quality and grant assistance to wheat growers producing for their own needs, taking special account of mountainous regions. It shall purchase homegrown wheat of good quality, for milling, at a price which make cultivation possible. Millers may be required to purchase back this wheat on the basis of its market value.

« The Confederation shall ensure the promotion of scientific milling and shall at the same time protect the interests of consumers of bread and flour. It shall, within the limits of its powers, control the wheat market and the prices of wheat, breadmaking flour and bread. The Confederation shall take the measures necessary for regulating the importation of breadmaking flour and may reserve to itself the exclusive right to import this product. The Confederation shall grant, in case of need, facilities to mills in order to reduce their transport rates in the interior of

the country. It shall take measures in favour of mountain regions calculated to equalize flour prices.

"The statistical duty charged on all goods crossing the Swiss frontier shall be augmented. The proceeds of this duty will contribute to cover the cost incurred to ensure a wheat supply for the country".

As a result of the adoption of this new article of the Constitution the Swiss Government has issued a series of regulations, of a temporary character, governing the wheat supply of the country based on the principles laid down in the article reproduced above.

These regulations were declared of a urgent character and came into force on 1 July 1929. They are declared valid for a period of three years. The Federal Order of 16 June 1927 regulating the wheat supply in a provisional manner and the supplementary Federal Order of 22 June 1928 are repeated.

Below is a systematic summary of all the Federal measures issued by the end of June 1929.

FEDERAL ORGANIZATION. — The federal wheat organization which is attached to the Finance Department constitutes a distinct section attached to the Alcohol Excise. It is responsible for the application of the Federal Order of 22 June 1929 and the executive Order of 28 June 1929 insofar as this work is not expressly entrusted to the Customs administration. Among the duties of this administration are the control of the wheat market, regulated by the Order of 28 June 1929. In addition the Customs administration supervises, in collaboration with the Wheat Administration, the central and local wheat services and places its expert inspectors at their disposal. These inspectors shall take charge of native wheat and settle any disputes that may arise in this connection with the millers.

A Federal Wheat Commission has been instituted in order to judge in final resort any appeals against the measures taken by the general Wheat Administration with respect to the warehousing of the wheat belonging to the Confederation, the taking delivery of the native wheat by the trade mills, as well as the consignment of native wheat and the allocation of the milling premiums.

The Wheat Administration in its quality of a Federal Administration, keeps a special income and expenditure. Its expenditure is met of the general funds of the Confederation.

CANTONAL AND LOCAL ORGANIZATION. — Cantonal central offices are set up in the districts of the Federations of Agricultural Syndicates for the purchase of native grown wheat and the payment of milling premiums, in accordance with the provisions of the Orders issued on this subject and with the instructions of the Wheat Administration. These offices which are styled "central" are administered by the directors of the various Federations.

These Central Offices are to set up in the various communes trustworthy agents to be called local wheat services; these services shall, by the orders and on the responsibility of the central offices, ensure the application of the measures prescribed by the Executive Ordinance of the Order respecting the wheat supply. In those regions where wheat is widely cultivated, there will be created a local service for each commune. In those districts, on the other hand, where wheat is not widely cultivated one single service will be sufficient for several Communes.

The measures adopted for ensuring the country an adequate wheat supply consist in: — (a) the maintenance of reserve stocks; (b) home grown wheat; (c) milling (d) protection of the interests of bread and flour consumers; (e) the wheat trade.

(a) *Maintenance of Reserve Stocks.* — The Swiss Confederation maintains reserve stocks of breadmaking corn (wheat, rye and spelt). These maximum amount thus stocked will be 70,000 tons but the Federal Council is authorized in exceptional circumstances to raise it beyond that figure.

The Confederation reserve stock shall be composed of the varieties and qualities of foreign wheat preferred by the mills on account of their high milling and baking qualities, but the Wheat Administration is authorized in exceptional circumstances to build up stocks of foreign origin.

In purchasing home grown wheats the Wheat Administration shall consider in the first place, the offers made by Swiss wheat merchants or by representatives domiciled in Switzerland of reliable foreign firms. As regards the warehousing of these stocks it is laid down that one half the normal reserve stocks must be stored in warehouses belonging to the Wheat Administration while the other half must be stored in private trade mills; such storage is compulsory and gives rise to no right to special indemnities. The quantity to be thus housed by private mills is decided at the beginning of every year by the Wheat Administration in proportion to the quantity of wheat milled by each one of them during the preceding year. One fourth must be hard wheat. Exceptions are made in favour of mills which do not possess the installations necessary for the proper storing of their contingent.

Other provisions contain minute regulations respecting the obligations of millers and wheat administrations, in particular as regards the maintenance of adequate reserves, the control of insect pests, rodents, etc.; and the renewal of the reserve stocks.

(b) *Home grown Wheat.* — I. Taking Delivery. The Confederation purchases directly from the cultivators home grown breadmaking grain suitable for milling (wheat, rye, spelt and mixtures of wheat and rye containing at least 50 % wheat) grown by themselves; the price paid for this grain shall be 8.50 Swiss francs more per quintal than the average price of foreign grain of the same quality delivered free at the Swiss frontier and without customs dues. The minimum price paid must however be 38 Swiss francs and the maximum price 45 Swiss francs per quintal. The purchase price of wheat for the 1929 crop of which delivery is to be taken by the Confederation is fixed at 42.50 Swiss francs per quintal. The prices of other species of corn shall be fixed on the basis of these prices account being always taken of their milling value.

II. Milling Premiums. — Swiss farmers who cultivate in Switzerland for their household or farm needs, wheat suitable for milling, maize, spelt, starched wheat or, in mountainous regions, barley are entitled to a milling premium. This premium is fixed at 7.50 Swiss francs per quintal of milled grain. It is accorded every year in respect of every person who is a regular member of the producer's household up to a maximum of 100 kilograms of threshed corn (wheat, rye, spelt, wheat for starch or mixtures of these cereals) or of 300 kilograms of unthreshed corn (unhusked spelt, mountain barley) or 300 kilograms of maize.

In mountainous regions the premium for normal milling shall be increased by a supplement which may rise to a maximum of 4.50 Swiss francs per quintal of wheat according to the height. By "mountainous regions" are meant all regions having an altitude of 800 metres or above. The supplement of 4.50 Swiss francs is a maximum and will only be paid over in the case of regions having an altitude of 1200 metres.

Milling premiums and supplements will only be paid to producers, and only for wheat suitable for milling which has been milled in a Swiss mill. In each case there

must be presented a milling card which is personal and non-transferable and which will be renewed every financial year.

The Wheat Administration envisages also the adoption of measures calculated to improve wheat cultivation.

In particular it encourages by means of subsidies the production and acquisition of selected native seeds of breadmaking grain while the importation of foreign rye and spelt seeds are subject to its authorization.

Lastly the Confederation with the object of encouraging cereals cultivation in mountainous regions may grant subsidies for the construction of mills or for the improvement of corn mills which do not satisfy modern requirements.

(c) *Mills.* — Mills working for the market are subject to the supervision of the Confederation. All persons wishing to engage in the milling trade are required to notify the Wheat Administration. The Confederation keep a register of mills and establishes in a charges book, instructions regarding the renewal of reserves and taking delivery of homegrown wheat and of wheat belonging to the Confederation placed in reserve warehouses. Millers working for the market are required when signing the charges book to supply sufficient guarantees for the accomplishment of the obligations imposed upon them by the Federal provisions.

The Wheat Administration shall keep a register of mills for home consumption which work for wheat producers. The mills for home consumption are like mills working for the market, subject to the supervision of the Confederation.

The Confederation alone has the right of importing breadmaking flour. The Wheat Administration may allow special or general importation permits against payment of a compensating customs duty, fixed at 20 Swiss francs per quintal of raw breadmaking flour imported. Nevertheless the importation of breadmaking flour for industrial uses may be allowed with partial or total dispensation from the compensating customs due.

The Confederation may, in view of maintenance of mills situated at long distances from frontier importation stations, take the necessary measures for reducing the cost of transporting wheat by railways from the frontier to the destination stations and shall pay every year to the Federal Railway an indemnity of 1,500,000 Swiss francs as equitable compensation for the financial consequences of the application of the special tariff granted to breadmaking wheat.

(d) *Protecting the interests of bread and flour consumers.* — With this object the Wheat Administration exercises a continuous supervision on the price movements of breads tuff wheat, of breads tuff flour and of bread and shall, in particular, report on the prices of breads tuff wheat and the cost price of breads tuff flour produced by Swiss mills. In the case of any abuse the Federal Council shall lower the price of bread-making flour and of bread by importing flour on behalf of the Confederation, by reducing the compensatory customs duty charged on foreign breadmaking flour or by other suitable means.

The Wheat Administration shall further re-imburse in mountainous regions the transport costs of flour and bread when they exceed 1 ½ centimes per kilo on condition that the transport service is scientifically organized and effected.

These subsidies may be paid to mountainous communes under the form of grant *per capita* of the population, account being taken where necessary of the self-supply of produce: the subsidies are paid once a year.

(e) *Control of the Wheat Trade.* — The supervision of the wheat trade is carried out by the Customs administration. The control of the wheat trade is in particular regulated by the Order of the Federal Council of 28 June 1929.

All persons wishing to engage in the wheat trade are required to notify the Customs

Administration and have their names inscribed on the Trade Register. They are required to make a written declaration undertaking (a) to keep intelligible accounts; (b) to allow the Federal authorities to consult these accounts and to furnish the said authorities with all information they consider necessary in order to effect this control; (c) not to sell or transfer breadmaking flour except to mills worked for commercial purposes or to other millers who have supplied the above mentioned guarantee; (d) to supply on demand, a money deposit as a security for the fulfilment of their obligations towards the Confederation.

These provisions are applicable also to firms which engage in the warehousing on a commercial basis. Foreign wheat may also be imported without conforming to the provisions summarized above, but in this case there is payable in addition to the entry due specified in the Customs tariff a supplement of at least 15 francs per quintal, raw weight.

Other provisions govern fodder grain and millers' refuse used for cattle feeding. The fodder grain trade may also be made subject to the supervision of the Confederation if its condition or aspect necessitate such control.

In application of the last subsection of art. 23 b of the Federal Constitution envisaging the augmentation of the statistical due on imported goods so as to cover the cost of supplying the country with wheat, the Federal Law of 1902 on the Swiss customs tariff has been modified. Lastly the Federal Council has issued on 19 June a provisional Ordinance to come into force on the same date as the law on wheat supply, regarding the calculation and collection of a statistical due on the goods traffic between Switzerland and other countries.

Uruguay. — Ley. Se autoriza al Consejo Nacional de Administración la adquisición directa de los agricultores de una cantidad de trigo de la cosecha actual. — 2 de agosto de 1929. — Diario Oficial, n. 6920 (8 de agosto de 1929).

* * *

STATE PURCHASE OF WHEAT. — The National Council of Administration is authorized to purchase directly from the farmers up to 300,000 quintals of wheat, of the present crop at 4 pesos 50 centimes per quintal, contained in sacks of the exportation type (on the minimum basis of 78 kilograms specific weight per hectolitre).

Wheat thus purchased shall be intended for exportation or for sale to the home mills. The Executive authorities may however only export the wheat thus purchased after 31 December 1929. The wheat shall be purchased by the Official Seeds Commission.

If the price obtained by the Government for the wheat exceeds that paid for it the net difference shall be paid over to the farmers.

PREMIUMS FOR WHEAT CULTIVATORS. — Cultivators shall in respect of the 1928-29 crop provided they have sold it before 1 July 1929 receive from the State the premiums mentioned below:—

0.60 pesos per quintal	if the quantity produced is less than 100 quintals;
0.50 " " "	if the quantity produced is between 100 and 200 quintals;
0.40 " " "	if the quantity produced is between 200 and 300 quintals;
0.30 " " "	if the quantity produced is between 300 and 400 quintals.

In order to arrive at an exact estimate of the quantity produced by each farmer account shall be taken of the data inscribed on the winnowing registers, after deducting 10 % of the total for seeds and the personal consumptions of the cultivator and his family.

The law expressly lays down that in the case of share tenancies the premium shall be paid without any deduction to the tenant.

The premium paid to cultivators is not subject to distraint.

Bills.

UNITED STATES OF AMERICA. — A Bill to provide for the inspection of poultry and poultry products. April 15, 1929. H. R. 146, 71st Congress 1st Session.

[The Bill proposes to empower the Secretary of Agriculture to order an examination and inspection of all poultry before they are allowed to enter any slaughtering, packing, canning or similar establishment in which they are to be slaughtered and the meat and meat food products thereof are used in state or interstate commerce. Examination of such products may also be made after slaughter, and products found unsound, unwholesome, unhealthful or otherwise unfit for human food are to be condemned and destroyed].

UNITED STATES OF AMERICA. — A Bill to establish game sanctuaries in the national forests. 29 April 1929. S. 681, 71st Congress, 7st session.

[The purpose of this bill is to provide breeding places for game and fur bearing animals, game birds and fish in the national forests not suitable for agriculture. The hunting, pursuing, poisoning, killing or capture of animals in these areas is forbidden, but the Secretary of Agriculture shall make special regulations, not in contravention of State laws, on the hunting, capturing or killing of predatory animals].

UNITED STATES OF AMERICA. — A Bill authorizing appropriations for the construction and maintenance of improvements necessary for protection of the national forests from fire, and for other purposes. 16 May 1929. S. 1139, 71st Congress, 1st Session.

[The sums proposed to be appropriated are : for the fiscal year ending 30 June, 1931, and 30 June 1932, \$4,500,000 ; for the fiscal year ending 30 June 1933, \$4,200,000 and afterwards \$4,000,000 annually or such other amounts as Congress may provide later].

STRAITS SETTLEMENTS. — A Bill intituled an Ordinance to amend Ordinance No. 56 (Limitation). 3 January 1929. Straits Settlements Government Gazette No. 5 (18 January 1929).

[Where one landowner has encroached on the property of another he obtains in course of time according to Ordinance No. 56 a possessory title to the land he has so encroached upon. But such adverse possession does not according to the law in the Colony give him a full title to the land, it only bars the former owner's right of action. In English law, on the other hand, adverse possession even extinguishes the title of the former owner. The effect of the present Bill would be to assimilate the law of the Straits Settlement to the law of England in this respect].

UNION OF SOUTH AFRICA. — A Bill to regulate the inspection, registration and sale of stallions, bulls and rams and to prevent the use of such animals for breeding purposes when they are not fit so to be used. 7 February 1929 Union Gazette Extraordinary, No. 1759 (13 February 1929).

[This Bill authorizes the Governor General to appoint a consultative council for giving him advice in connection with the Bill. It also authorizes the Governor General

to order the periodical inspection of stallions, bulls and rams, to provide for the castration of such as are likely to beget defective progeny, to order the registration of animals of these species and to prohibit their sale unless certified at least one month previously to be fit for breeding purposes]

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INTERNATIONAL REVIEW OF AGRICULTURE

PART II

MONTHLY BULLETIN

OF

AGRICULTURAL ECONOMICS AND SOCIOLOGY

FARM ECONOMICS

Definitions and Terminology for Use in International Statistical Researches based on Farm Accountancy.

At the International Congress of Agriculture held at Bucharest in June last a report entitled "Terminology and Bases for an International Agricultural Statistic founded upon Farm Accounting" was presented by Dr. Ernest Laur, Professor at the Federal Polytechnic School at Zurich and Director of the Swiss Peasants' Union.

Dr. Laur, to whose efforts is largely due the great development that has taken place in farm accountancy in Switzerland and in other countries, referred to the fact that the International Institute of Agriculture, which is endeavouring to set up a system of comparable researches founded upon farm accounting, had adopted a questionnaire originally drawn up by himself but examined and slightly modified by the Rural Economy Committee of the International Scientific Agricultural Council of the Institute.

He pointed out that in order that the results obtained in different countries should be comparable, it was necessary that uniform definitions and methods should be used. He urged that the researches contemplated should be limited to a few important questions only, and proceeded to specify these questions, passing in review the definitions and methods upon which it was necessary to agree in studying them. He stated that the most appropriate standard for measuring the success of farming was the *net return on total farm assets* and showed how the correct calculation of the net return depends upon an accurate computation of the *gross return* on the one hand and the *farm expenses* on the other. He discussed what items should be included in the gross return and in farm expenses and distinguished carefully between farm expenses and *cost of production*. He indicated that there was an alternative method of calculating the net return, which did not involve computing the gross return and the farm expenses. He also showed how it was possible to calculate other important results, such as the *taxable net return*, the *profit or loss on total farm assets*, the *family farm earnings*, the *family labour earnings*, the *family capital return*, the *operator's profit or loss*, the *social income*, and the *interest return on "landlord's capital"*, discussing in each case the precise meaning to be attached to the terms. He then submitted the following definitions and terminology, which were approved by the Congress:

1. *Purpose of international statistical researches founded upon farm accounting.*

The aim of these researches must be to furnish comparable useful information covering the status of agriculture in as many different countries as possible. In order to achieve that purpose, it will be necessary:—

(a) to come to a definite understanding upon the meaning of the term "Agriculture", i. e. upon the branches of economic activity which may be considered as agricultural;

(b) to adopt everywhere the same terminology and to use methods giving results which may be compared between the different countries;

(c) to limit researches to a small number of results concerning the farm considered as a whole, respectively: Net return on total farm assets, Profit or loss on total farm assets, Family farm earnings, Family labour earnings, Family capital return, Operator's profit or loss, Social income, Interest return on "landlord's capital";

(d) to complete these researches by setting up the gross return and farm expenses of the whole farm, as well as their main constituents, without trying to determine the accurate net return and production cost of each branch separately. In setting up the different constituents of the gross return, as well as in determining it as a whole, one will have to reckon as "gross return" only produce furnished by the farm to the farmer, or sold, or booked in shape of an increase in the inventory; on the contrary, one will not be allowed to include here products furnished by a branch to itself or to other branches in order to be transformed into other produce, or undergo new increases, whereupon their initial value, increased by transformation, will be then considered as gross return.

2. Definition of "Agriculture" (*agricultural undertaking, farm account*).

For Farm accounting must be considered as agriculture, not only crop production, but also animal husbandry and the other branches whose purpose it is to transform raw materials, in so far as they are closely connected with agriculture. In case the importance of forestry be considerable, or in case agricultural branches of a special character use mainly purchased raw materials or hired non-agricultural labour, they should be considered as non-agricultural. Vegetable growing or truck farming on an industrial scale or with the aid of warm green-houses, and floriculture under similar circumstances, as well as fishing in lakes and rivers conducted as a regular occupation, are to be considered as non-agricultural.

3. Conducting these researches.

The International Institute of Agriculture, which has already done important preparatory work toward these researches, appears to be best qualified to carry them through. The results could be classified according to types of farming as well as by rank of size of the farms.

4. Net return on total farm assets (or: Net return).

This is that part of the gross return which may be considered as the interest effectively earned on the whole agricultural assets. It can be found by subtracting farm expenses from the gross return. It may also be obtained by adding together the increase of the net agricultural capital (not considering cash balances), net cash receipts of the farm, contributions in kind of the farm to the farmer for his family consumption or non-agricultural undertakings and interests paid on farm debts (or rents paid), and then subtracting from the total thus arrived at the decrease of the net agricultural capital, the net cash expenses for the farm (including the taxes carried normally on the farm account and interest effectively paid on farm debts or rents paid), the contributions in kind of the farmer or of non-agricul-

tural undertakings to the farm, as well as a fair wage claim for unpaid labour of the farmer and his family.

The net return can be expressed in % of the total farm assets and per unit of surface (hectare, acre).

In re-adding the taxes to the net return on farm assets, one finds the *Taxable net return*.

5. *Gross return.*

This means the total increase of value obtained in one year through transformation, exchange and revaluation. In order to set up the gross return and especially also the gross return of the different branches the following principles must be kept in mind :

(a) Must be considered as gross return :—

(1) Cash receipts (including standing accounts at the end of the year, deducting those at the beginning) for produce of the farm.

(2) Value of contributions in kind from the farm to the household, private account or non-agricultural undertakings.

(3) Contributions in kind to the employees.

(4) Value of the produce of the farm used for the permanent improvements or repairs for the farm itself (wood for buildings or tools, etc., in so far as forests have been considered to belong to the agricultural undertaking, etc.).

(5) Increase of farm supplies on hand, livestock and such improvements as trees etc. at the closing inventory. Prices per unit at the end of the year ought in principle to be the same as those at the beginning, an exception being admitted only if it is very likely that the articles considered can be sold before long with a price difference.

(b) Shall *not* be considered as gross return and therefore, if included under (a) must be deducted :—

(1) Increase of value due to purchase of livestock, of trees and plants and of certain raw materials, especially such furnished to accessory branches of a special character or resold. However, purchases of feed, seed, manure and litter to be used in the farm itself must not be subtracted ; it is indeed fair that the value of produce obtained through the use of such raw materials be considered as gross return.

(2) Increase of value of land capital, improvements, buildings, implements, whether they may result from new purchase or from an increase of the value per unit.

(3) Decreases of farm supplies on hand normally intended for sale.

(c) Products of a branch furnished to another branch in order to be transformed by it must appear only under the gross return of the latter, and in their total *final value* (e. g. hay turned into meat and milk ; farm manure turned into wheat or potatoes).

(d) The gross return can be expressed in % of the total agricultural assets and per unit of surface. It may also be expressed per working day.

6. *Farm expenses.*

This is the total amount of sacrifices of all kind made in order to obtain the gross return with the exception of a charge for interest on the whole assets.

(a) Must be considered as farm expenses :—

- (1) Wages of the paid labourers, including cash wages, board, contributions in kind from the farm, insurance, etc.
- (2) A fair wage claim for unpaid labour of the farmer and his family.
- (3) Cash payments (cleared of outstanding bills) for current expenses.
- (4) Certain current expenses in shape of contributions from the farmer.
- (5) Decreases, at the closing inventory, of supplies bought to be used on the farm and of field inventory.
- (6) Depreciation.

(b) When setting up farm expenses, the following principles must be observed :—

- (1) Wage claim for members of the family must be determined upon the same basis as salaries of paid labour in the said country.
- (2) In case farm produce on hand intended to be used on the farm (hay, straw, etc.), have decreased from the opening to the closing inventory, the deficit shall be considered as if purchased ; in other words, the difference should not be subtracted from the gross return, but added to the farm expenses.
- (3) Increases, at the closing inventory, of supplies bought in order to be used in the farm must be subtracted from the farm expenses.
- (4) The interest paid on farm debts and rents paid must *not* be considered as farm expenses.
- (5) Taxes on agricultural property or agricultural earnings must be considered as farm expenses.
- (6) Depreciation charges must be reckoned by taking into account the number of years the object considered will probably last and its final value.
- (c) Farm expenses may be expressed in % of the total farm assets and per unit of surface. It may also be expressed per working day.

7. *Cost of production.*

This is found by adding to the farm expenses a fair interest claim on the total farm assets. For the interest rate upon land may be used as comparison the interest rate paid by banks or by the State in the said country upon deposits or bonds affording high security, after deducting the taxes paid by the lender. The rate of interest on the "tenant's capital" should be 0.5-2.5 % higher than the rate for the land. For the whole farm assets, the average may be 4.5-5 % in countries with normal credit conditions, 6-7 % in countries suffering from a lack of credit, 8-10 % in colonies where risks are high.

8. *Profits or Loss on total farm assets.*

This will be found by deducting from the return a fair interest claim on the farm assets. It may also be obtained by subtracting the cost of production from the gross return. When expressed in % of the gross return, it indicates the proportion in which the average price-index ought to have been higher or lower in order that the cost of production be exactly covered. If expressed in % of the cost of production, it tells the proportion in which that cost should have been higher or lower in order that the year close without any loss or profit.

9. *Family farm earnings.*

This means the portion of the gross return which the farmer effectively receives, as remuneration for the use of his own capital (net agricultural capital)

and for the work done by himself and the members of his family. It is the portion of the gross return which the farmer and his family could have disposed of without the own capital diminishing. Family farm earnings can be found by deducting from the net return, the interest paid on debts and re-adding the fair wage claim reckoned for the work done by the operator and his family.

10. *Family labour earnings.*

This can be found by subtracting from the family farm earnings a fair interest claim for the own capital invested. It may be expressed per man's working day of the farmer's family.

11. *Family capital return (or : Return on own capital).*

It will be found by deducting from the family farm earnings a fair wage claim for unpaid labour of the farmer and his family. It can be expressed in % of the own net capital.

12. *Operator's Profit or Loss.*

The Operator's Profit or Loss will be found by deducting from the family farm earnings a fair wage claim for the unpaid labour of the operator and his family, as well as a fair interest claim for own capital invested. It may be expressed in % of the farmer's own capital.

13. *Social Income.*

The Social Income can be computed by adding together the net return on agricultural assets, a fair wage claim for the unpaid labour of the operator and his family, the wages paid to employees (including board), and the taxes. It is the general increase of value obtained by the community through the farm operation and may be considered as a kind of "cleared up" gross return.

14. *Interest return on "landlord's capital".*

Subtracting from the net return a fair interest claim on the "tenant's" or operating capital gives the *Interest return on "landlord's capital"*. It can be expressed in % of the "Landlord's capital".

Prof. Laur gave a list in French, German and English of some of the principal terms used in farm account. We reproduce this list, and hope, later on, to publish it in other languages as well.

The following resolutions were voted by the Congress :

I.

The Congress approves the bases explained in Professor Laur's dissertation towards the setting up of an International Statistic founded upon Farm Accounting. The Farm Accounting Offices in the different countries are invited to make all use of the terminology described in that dissertation, and to adopt, in the different languages, the terms which will be best suited to that purpose.

SOME OF THE MAIN TERMS USED IN FARM ACCOUNTING

FRANÇAIS.	DEUTSCH.	ENGLISH.
<i>Principaux résultats.</i>	<i>Hauptergebnisse.</i>	<i>Main results.</i>
Rendement brut (ou : Produit brut).	Rohrertrag	Gross return
Frais d'exploitation	Aufwand	Farm expenses
Coût de production	Produktionskosten	Cost of production
Rendement net	Reinertrag	Net return (on total farm assets)
Rendement net imposable	Versteuerbarer Reinertrag	Taxable net return
Rente du domaine	Landgutsrente	Interest return on landlord's capital
Rente foncière	Grundrente	Interest return on the land alone
Écart de rendement net	Reinertragsdifferenz	Profit (or loss) on total farm assets
Revenu agricole (de la famille)	Landwirtschaftliches Einkommen	Family farm earnings
Rente de la fortune nette	Vermögensrente	Family capital return (or : Return on own capital)
Produit du travail (de l'entrepreneur et de sa famille)	Arbeitsverdienst (des Unternehmers und seiner Familie)	Family labour earnings
Produit du travail de l'entrepreneur	Arbeitsverdienst des Unternehmers allein	Operator's labour earnings
Bénéfice (ou perte) de l'entrepreneur	Unternehmergewinn (oder -Verlust)	Operator's profit (or loss)
Revenu social (ou : revenu économique)	Volkswirtschaftliches Einkommen	Social income

Quelques termes auxiliaires.

Actif (ou : Capital actif)
Passif (ou : Dettes)
Fortune nette

Capital domaine
Capital fermier
Avances de cultures
Provisions

Provisions produites dans l'exploitation

Recettes en espèces de l'exploitation
Prestations en nature de l'exploitation

Dépenses en espèces pour l'exploitation
Prestations en nature à l'exploitation
Amortissements
Impôts
Intérêts des dettes
Fermages

Service d'intérêts des capitaux (ou :
de l'Actif total)
Service d'intérêts de la fortune nette

Rétribution équitable de l'exploitant
et des membres de sa famille

Einige Hilfsbezeichnungen.

Aktivkapital
Passivkapital (oder : Schulden)
Reinvermögen

Landgutskapital
Pächterkapital
Feldinventar
Vorräte
Selbstproduzierte Vorräte

Bareinnahmen des Gutsbetriebes
Naturalleistungen des Gutsbetriebes

Barauslagen für den Gutsbetrieb
Naturalbezüge des Gutsbetriebes
Amortisation
Steuern
Schuldzinsen
Pachtzinsen

Zinsansprüche der Kapitalien (oder :
des Aktivkapitals)
Zinsansprüche des Reinvermögens

Lohnansprüche (des Bewirtschafters
und der Unternehmerfamilie)

Some auxiliary terms.

Total capital invested (or : Farm assets)
Farm debts
Own capital (or : Family capital)

Landlord's capital
Tenant's capital (or : Operating capital)
Field inventory
Supplies on hand
Farm produce on hand

Cash receipts of farm
Contributions in kind from the farm

Cash expenses for farm
Contributions in kind to the farm
Depreciation charge
Taxes
Interest paid on farm debts
Rents paid

Interest claim to be charged on the farm
assets (or : on total capital invested)
Interest claim for own capital in-
vested

Wage claim for unpaid labour of the
operator and his family

II.

The Congress invites the International Institute of Agriculture at Rome to pursue its work concerning the institution of international statistics based upon Farm Accounting, making use of the above-mentioned definitions and methods, and to engage a capable staff for that purpose.

Dr. Laur has recently issued a circular to Farm Accountancy Bureaux and to Professors of Rural Economy and of Farm Accountancy urging that the terminology adopted by the International Congress of Agriculture should in future be effectively applied in farm accountancy as well as in agricultural economics in general. He urges that the question whether such and such a term is the best that can be found is less important than the necessity of employing a uniform terminology.

XIVth International Congress of Agriculture (Bucharest 1929).

RESOLUTIONS PRESENTED BY SECTION II (RURAL ECONOMY).

On the report of Dr. Ernest LAUR, Professor at the Federal Polytechnic School in Zurich, the Congress:

As regards scientific organisation of agricultural work:—

Records the fact that it constitutes an important means of contributing to the progress and prosperity of agriculture and while considering that this question belongs to the sphere of rural economy, is of opinion that certain of the problems that it raises can only be resolved with the help of methods proper to branches of science, such as the physiology of work, psychotechnics, rural engineering, which deal with special well-defined aspects of agricultural work.

Recommends to the institutions concerned, national and international, especially to the International Institute of Agriculture, and to the International Management Institute to extend as widely as possible their investigations for establishing the scientific bases of the organisation of agricultural work, to encourage the exchange of information and to make provision for methods of propaganda and experiment likely to further the adoption by farmers of these principles of scientific management.

As regard instruction in farm accountancy:—

Expresses the hope that it will be placed in the hands of instructors qualified by their knowledge of rural economy.

INTERNATIONAL AGRICULTURAL ECONOMY

XIVth International Congress of Agriculture (Bucharest, 1929).

RECOMMENDATION PRESENTED BY SECTION I (AGRICULTURAL ECONOMIC POLICY).

The Congress, considering the disproportion which continues between the prices of agricultural products and the cost of production, resolves:

1. to recommend to farmers; (a) the foundation of national and international Unions, having as object the organisation of the marketing of agricultural products and the exercise of influence on the formation of prices; (b) the multiplication of warehousing accommodation and of issue of warrants on cereals;

2. to recommend to farmers and agricultural associations of the different countries to give every attention to the problems relating to agricultural markets, and, with this object:

(a) to organise information offices on prices, distribution of agricultural products and crop conditions in each country;

(b) to prepare an international agreement on the method of enquiry and statistics employed in the different countries, calling the attention of the International Institute of Agriculture at Rome to the question.

3. to recommend to milk producers the formation of organisations on the basis of the experiments made in Switzerland.

CO-OPERATION AND ASSOCIATION

Establishment and Work of the Farm Experiment Circles in Germany.

The institution known as Experiment Circles (*Versuchsringe*) is one of considerable importance for farm advisory work, for progress in technique and in farming organisation in German agriculture. The first of these were founded in the Province of Saxony eight years ago. The institution had its origin in the idea of self-help. A number of large farms decided on carrying out field trials in common; a farmer thoroughly qualified on the technical and scientific side was appointed on a full-time basis as Director of the experiments, and the cost incurred was shared on the basis of a unit of area. The trials were in the first instance to have a practical aim and the outcome was to be in practice a utilisation of the technical and scientific experience gained. Any trials especially desired by individual farms were carried out on the farms themselves; the plan, lay out, and also the results were discussed by the farmers with the director. Much was accomplished by regular conferences of the directors and accompanying exchange of views. The institution of the Experiment Circles did not imply any sweeping away of the earlier organisation of experimental work; the intention was merely to fill a gap which was becoming more and more apparent and the claims on experimental work were becoming greater. The experimental system as previously organised, owing to its limited resources, was not in the position to carry through so comprehensive a number of trials as are nowadays required nor to give consideration to the lay out of the experiments in accordance with special desires. In view of the progress made by agriculture in the regions mentioned, anxiety was shown to go on to systematic trials in regard to fertilisers, seeds, questions of working the soil, etc. It was hoped to achieve better standpoints than were reached by the results of previous trials carried out on other farms and in differing circumstances which owing to the marked differences occurring in natural and economic conditions could often only to a limited extent offer grounds for argument. From the beginning onwards very great value was attached to the collaboration and the exchange of views and experiences with scientific institutions. This was to the advantage of both side, and the transition path from theory to practice was shortened.

The earlier experiment circles included large farms only, and the area dealt with by a circle varied from 3,000 to 7,000 hectares. The results achieved were the more remarkable, as the farms belonging to the circle were hardly ever surpassed in respect of size and intensity of yield and general excellence of farm management. It was thus rightly felt that if the result was favourable in the case of these farms, it was sure to be so in the case of other farms, and hence the number of circles soon became greater. The latest list of the circles issued by the German Agricultural Society (*Deutsche Landwirtschafts-Gesellschaft*) gave the number as over 600, and this number must by now be much larger.

As the idea of the experiment circles gained ground the organisation of the circles underwent certain changes. The self-supporting principle which was originally strongly emphasised could not be completely maintained. Apart from subsidies from public resources it would have been impossible to achieve any extension of the scheme or to establish the circles on any large scale in farming districts (*Bezirke*). In contradistinction to the self-supporting circles, which group only a limited number of large farms and have a director who gives his full time to the work, the farming experiment circles frequently embrace whole districts (*Bezirke*) and are attached to the School of Agriculture situated within the district. This

connection with the School of Agriculture partially solves the question of the financing, the teachers of agriculture undertake to do the work of the experiment circles, and the additional costs are met by subsidies from the *Reich*, and from the State and communal authorities.

The principal activity of the circles remains the work of experiment: trials of soil cultivation, fertilising, varieties, seed germination and control of pests. The importance of this experimental activity is clear from the consideration of a single fact. If it is remembered that fifty trials are carried out by one circle alone, with 600 circles the figure of 30,000 trials in farming practice is reached already. The progress thus involved for many parts of the country is apparent from the comparison of the trials in certain parts carried out before and after the extension of the experimental work. Trials were carried out as follows:

	In Baden	In East Prussia
1913	about 50	about 50
1920	160	100
1924	173	500
1927	1,946	3,236
1928	180	?

The earlier number was thus in 1927 multiplied from 20 to 60 times and in 1928 for Baden 60 times. It is however rightly pointed out that a simple comparison between previous years and the present is not practicable, since previously the experiments made were mainly for show, whereas the present day trials are chiefly exact trials. The exact performance of all trials would involve unnecessary labour in many farming districts where the first essential is to apply what has been proved of value on other farms. The work in the farming circles will be of a different type from that in the independent circles, and the farming circle will usually try from the first to go further and to embrace the whole farm. Actually the independent circles do not confine themselves merely to the field trials work although that is their main activity; many circles have gone beyond their original function as unions for supervision of crop lands and have extended their activity also to other branches of farming (stock-breeding, pasture land, etc.) and engage in questions of farm organisation and management. The experiment circles of the larger farms hold, as a matter of course, joint conferences on the results of trials and on field observation visits, but in the farming districts a still greater importance attaches to these. The tenacity with which many farmers hold to traditional methods makes it very hard to win them over by words alone to any progressive step, and they will be more inclined to admit that the innovators are right if they are actually shown on the spot the defects in the old methods, the success of a sound method of cultivation, fertilising and selection of varieties, or the satisfactory and successful working of a new implement or a new machine. The final aim of the farming experiment circles is thus the formation of a general comprehensive farm advisory service. For this reason it was expedient to form a closer connection with the existing agricultural advisory centres and the agricultural schools, whereby these two types of institution also profited. The system of farming experiment circles and agricultural instruction are by their very nature closely connected, and for the attainment of a complete result they must supplement each other. The idea of the farming

experiment circle and its linking with the school thus viewed contains nothing new, but is an up to date intensification and rationalization as well an establishment of a permanent arrangement due to the sound working of the experiment circles and their responsibility to well known large farms. In conclusion one point may still be emphasised. In many districts the work of the circle is extended to the question of pastureland which except in a few progressive districts has not received the same attention as arable land. In order to begin at the foundations in this activity, many circles lay out, in conjunction with the pasturage unions where such exist, demonstration grass plots alongside of the plots for trial of varieties, and here good and poor grasses, forage plants and weeds are grown side by side. The farmers then see which grasses and herbs they actually have on their meadows and pastures and which they ought to have in given circumstances.

In the provinces the Experiment Circles have formed themselves into labour unions. The function of these unions is to give effective support to the individual circles, by advice, supply of information, exchange of views, prevention of overlapping, unification of experimental technique and of the application of the trials, lightening and perfecting of the work by courses of instruction for the directors, widening the scope of the work of the whole organisation by new initiatives and facilitating these by means of the collective experience. The German Agricultural Society has given close attention to the activity of the experiment circles and, by means of its special Committee and by the joint work for the experiment circles as a whole, has done much to define the functions, and organisation of the circles, and for their further development.

H. B. L.

The Chambers of Agriculture in the Economic Life of Austria.

The severe food shortage coinciding with the foundation of the Austrian Republic made it essential to take immediate steps for the encouragement of agricultural production, and thereby the most important share in the rebuilding of the State fell to the farming class. Much anxiety was accordingly felt by the farming population to secure representation of their own interests more especially as the representation of trade and industry in the Chambers of Commerce since 1899 and that of workers and employees in the Chambers of Labour since 1920 had proved factors of great influence in provincial economic policy.

After a detailed study of the Chamber system in Southern Germany (Bavaria) a law for the establishment of a Peasant Farmers' Chamber in Lower Austria was prepared and passed. The other Provinces of the Federation soon followed the example of Lower Austria. Provincial Farmers' Chambers were set up in Vorarlberg by a law of 10 March 1925 and in Burgenland by one of 13 March 1925. In Tirol the existing Provincial Agricultural Council (*Landeskulturrat*) was converted by a law of 27 January 1928 into a Chamber of Agriculture but retained its historical title. In Carinthia, Styria and Upper Austria legislation for the formation of Chambers of Agriculture also came before the Provincial Diets for ratification. In Salzburg the Provincial Agricultural Council (*Landeskulturrat*) was re-organised, but the chamber system has not so far been introduced.

The fundamental idea of the Peasant Farmers' Chamber system is to group the persons engaged in agriculture and forestry in a province, by means of direct voting, so as to form a strictly autonomous representation of their interests, completely independent of the provincial authorities. The Chambers possess their own

right of assessing taxes and have subordinate organisations in the form of district Chambers, or district associations in the different parts of the province. In addition to the direct representation of interests it also falls to the Chambers to act publicly and with legal right for the promotion of agriculture. The Chambers of Agriculture accordingly represent the legally established general organisation of all the farmers of a province, which gives them a certain official and authoritative character. This distinguishes them from the agricultural societies and other free agricultural unions, which have only the usual rights of unions and hence in no way possess competencies or rights going beyond the measure of union rights. In respect of these societies the State reserves to itself the work of encouragement of agriculture. The independent position gives the Chambers of Agriculture also in respect of the co-operative system a certain superior position, since the co-operative system represents only a part of the whole agricultural organisation, which finds in the Chamber its actual and representative apex organisation. In Lower Austria this fact finds obvious expression in that the Lower Austrian Chamber of Agriculture has the legal right of audit of all the agricultural co-operative societies in the province, nearly 1,600 in number.

The right to take part in the election to the Chambers is as a rule conditional on the possession of a minimum area of land. In Lower Austria, for example, the right to vote is granted, speaking generally, to all farmers who possess at least one hectare in land used for agricultural purposes, gardening or vine-growing, also if they possess less than one hectare and practise farming on their own account as principal occupation; also to tenants and holders in emphyteusis of agricultural parcels of land, if they work these on their own account as their principal calling. Teachers or instructors on agriculture also have a vote. In the other provinces, the prerequisites for voting differ only so far that there is a difference in the size of the holding which secures the right to vote.

As regards the place for the representation of the interests of farm workers in the Chambers of Agriculture, in Vorarlberg facilities are given to workers for direct representation in the Chamber, as was originally intended for Lower Austria. Also in the Tyrol, the right of voting belongs to farm workers in so far as they have the vote for the Diet. The legislative project for Carinthia provides the right of voting for farm workers, who have worked at least 3 years uninterruptedly in Carinthia at agriculture or forestry and hold the right to vote in the Diet. In the remaining provinces the question of the right of voting of farm workers is not yet made clear.

The Chambers of Agriculture have a very wide and comprehensive sphere of activity. In accordance with the provisions of the law, the Chambers have the right to give their opinion on projects of law and on ordinances of the Federal Government if affecting the interests of agriculture, before the introduction into the legislating bodies. Further there come within the sphere of the Chambers all questions of agrarian policy, commercial and fiscal policy, the tariff system, legal advice, agricultural labour system and agricultural social insurance, encouragement of co-operation, tax assessment, etc. With a view to arriving at uniformity of procedure and more especially in respect of the attitude towards the important economic and financial problems of the whole of Austria, an executive committee of the whole of the Chambers of Agriculture and Councils of Agriculture has been formed, known as the Presidential Conference (*Präsidentenkonferenz*), the business of which is transacted at the Lower Austrian Provincial Chamber of Agriculture.

In connection with farm management advisory work and promotion of cul-

tivation fresh work has fallen to the Chambers. Reference should here be made to the foundation of the accountancy offices, which were first established in 1924 after a detailed study of the Swiss farm accountancy system, in connection with the Lower Austrian Chamber, and later became introduced into all Chambers of Agriculture. The promotion of cultivation, as it is at present carried on by the Chambers, has already achieved considerable results, both as regards increased production and in the improvement of production in Austrian agriculture. Within less than 10 years the crop yields in wheat and rye have doubled, in barley have trebled, in potatoes they are fivefold and in sugar beet tenfold. Thanks to the initiative of the Chambers of Agriculture in 1926, six million Austrian schillings were devoted out of the loan of the League of Nations to the establishment of dairies, and 53 new co-operative dairies, including Alpine cheese-factories, were formed in the whole of Austria. There has been a tenfold increase within seven years only in the milk delivery to Vienna. A number of co-operative distilleries were erected with a view to utilising the surplus of potatoes. The Chambers of Agriculture are at present deliberating on the introduction of a comprehensive regulation of the sale and marketing of live stock. The standardisation of agricultural products was also introduced by means of the Chambers, while marks were established for butter of home production, Austrian wines, etc.

A special share in the activities of the Chambers is devoted to the subject of agricultural education, both in schools and after school. In certain provinces of the Federation the institutions for agricultural education have been transferred to the Chambers of Agriculture. In other provinces negotiations are proceeding so that there are at present some institutions which are still under provincial administration, as also already some which have been founded by the Chambers of Agriculture. Their activity also extends to establishment of research and experimental work as well as to the initiation of agricultural shows.

The success of the system of Chambers of Agriculture has won for it the complete confidence of the peasant farming class as well as the recognition and support of the other social strata of Austria.

M. T.

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DOLFUSS, Dr. Engelbert: Das Kammersystem in der Landwirtschaft Österreichs. *Die Landwirtschaft*, Nos. 4, 5 and 6. Vienna, April, May and June, 1929.

Die Forderungen der Landwirtschaft an die neue Regierung. Vollversammlung der Nieder-österreichischen Landes-Landwirtschaftskammer. *Ibidem*, No. 5.

Von der Nieder-österreichischen Landes-Landwirtschaftskammer. *Landwirtschaftliche Genossenschafts-Zeitung*, No. 10, 27 May 1929.

XIVth International Congress of Agriculture (Bucharest, 1929).

RESOLUTIONS PRESENTED BY SECTION III (CO-OPERATION).

1. The consumers' cooperative societies and the producers' societies have a common aim, each in their own sphere contributing to reduce the supremacy of capital over labour and to do away with earnings without full justification:
the Congress considers that collaboration between these co-operative societies in view of a common action and for the advantage of producers and consumers alike is essential.

It would be desirable to recommend as a formula a collaboration based on the equality and harmony of the different tendencies and interests.

2. The Congress considers that it is desirable and in the interests of international agricultural co-operation to concentrate, as soon as possible the agricultural co-operative societies in national co-operative Unions.

The object of these agricultural Unions or Federations will be, *inter alia*, that of exchanging yearly reports with the agricultural Federations of other countries so that in this way information may be available at any moment for any Federation on the development and position of co-operation in each country.

The co-operative Federations should also receive information on measures of inspection, in respect of co-operative societies, which have been taken in each country.

3. The Congress affirms the necessity of an international organisation of agricultural co-operative societies, with a view to meeting the credit needs of the national Federations and recommends the formation of organisations capable of arranging credit exchanges.

4. In view of the need that the agricultural co-operative societies of the different countries should support the interests of co-operators, as an integral part of the activities of the International Commission of Agriculture, and in order to facilitate a more thorough investigation of the question of the direct relations between the organisations of producers and those of consumers, the Congress affirms the necessity of forming within the International Commission of Agriculture a special committee with the duty of dealing with the business of agricultural co-operative societies.

The committee is to be formed by the delegates of the national agricultural co-operative Federations, which are members of the International Commission of Agriculture at Paris.

For this purpose, the Congress requests the International Commission of Agriculture at Paris to summon the delegates of the agricultural Confederations for 1 November 1929, at latest.

LAND SYSTEMS

The Agrarian Reform in Finland. (Conclusion).

5. The law of 1922 on land settlement. — The purchase of lands for settlement.

In accordance with this law, with the assistance of the State and of the communes and with financial support from the State, citizens of Finland fulfilling the conditions laid down in section 3 of the law are to be supplied with agricultural lands or homesteads or additional lands for settlement. No person however has an absolute right to receive lands, and lands can only be assigned within the limit of credits allocated for the purpose. The object of the law is to prevent immediate recourse being had to expropriations; an endeavour should be made to obtain lands as far as possible by amicable arrangement. For this reason, and in order that landless persons may have the opportunity of making the purchase themselves, it is possible, under the law, to pay the purchase price in advance to the owner by means of a charge on the public funds. In that case if it has been agreed that the selling price should be paid through the intermediary of the State, the purchaser must apply to the land settlement committee of the commune where the land is situated for a certificate proving that he is entitled to take up lands, that the land purchased is suitable for settlement, that the purchase will encourage land settlement and that the price and other conditions are equitable. When this certificate is passed to the surveyor in the course of operations, the method of paying the selling price to the owner out of the public funds is laid down as part of the decree of distribution in respect of the new property.

If the matter cannot be so arranged, and it is decided to have recourse to the aid of the authorities, written application for permission must be made to the

local land settlement committee or, if the applicant lives in a town or in a borough, to the Department of Land Settlement, or also to the land settlement committee of the commune where the desired lands are situated. As the applicant has not the right to indicate the position of the lands to be taken on his behalf, it is more advantageous for him to try to come to a preliminary agreement with the landowner for the transfer of a plot of land.

If the applications addressed to the land settlement committee are unaccompanied by offers of sale on the part of the landowners or if it has not been possible to approve such offers, the committee must undertake to form, in the State forest situated on the territory of the commune, holdings for the applicants, in the manner laid down by the law on land settlement in the State forests. But if lands can be found on the farms on State lands, in accordance with the provisions enacted on this subject such lands should be first used for land settlement. If there are not enough State lands, then the committee should apply to the Department of Land Settlement to know if, in another commune in the same administrative area, State lands or other lands have been reported to the Department as fit for settlement which could be assigned to applicants. In the next place any lands should be utilised which the owners may have freely offered previously to the committee to be purchased thorough its intermediary. If these lands are still insufficient for the applicants, the committee, should issue, following the usual method adopted for communal announcements, a notice instructing private owners the commune and the parish to make to the committee within 30 days from the date of publication offers for the sale of land ; if no offer is made within that time and if there are not forthcoming among the lands freely offered in another commune of the same administrative area enough lands for making an equitable assignment among the applicants, the committee may decide to obtain the lands required by means of expropriation. This method may not however be resorted to until it has been made clear in the way just explained that it is not practicable to find lands on State property nor to make an amicable arrangement.

Among individuals, as well as among associations, societies and co-operative societies which are not conducted in the general interest, all persons or bodies corporate possessing more than 200 hectares of lands or 400 in the department of Oulu, not counting lands not cultivable, are subject to expropriation. On the other hand, those who do not live on their property are obliged to submit to expropriation, even if the area is smaller ; the case is however different when the property has been reasonably well cultivated and if the area is less than 40 hectares, or than 95 hectares in Lapland and in the similar regions of Northern Finland. The lands possessed by the State and those which have been surrendered for purposes of public utility cannot on the other hand be expropriated. If the owner lives on his estate or on one of his estates, he is obliged to surrender at most a percentage of his land equal to the number of hundreds of hectares he possesses, but only 50 per cent. if he has more than 5,000 hectares. Out of 550 hectares, at most 25 ha. must be surrendered and out of 7075 ha. at most 3500 ha. But if the owner does not live on his estate or on one of his estates, and if one of these is not reasonably well cultivated, expropriation may be made on one of the properties in poor condition, of so much land that there does not remain more to the owner than 40 hectares at least, or 95 ha. in Lapland and similar regions.

When a land owner has surrendered the part of his land which was liable to expropriation, he is exempt from all further expropriation as far as that pro-

perty is concerned, even if his obligations were greater in consequence of subsequent purchases of lands. It is the same thing if he has transferred after 31 December 1921 a parcel of land subject to expropriation to a person to whom lands can be supplied in virtue of the law on land settlement. In a case of this kind, it is only if the property falls into a state of dilapidation that the owner may be liable to an expropriation. In any case on a property liable to expropriation lands systematically cultivated, well tended pasturelands or grass land and other parcels essential to a systematic and remunerative undertaking cannot be expropriated, and it is the same with parcels that the owner uses as building land, storage, gardens, gravel or sand pits, etc.

Also, at the time of the expropriations, forests essential to the property or to the leased land to be surrendered must not be touched, nor forests which it would be of advantage to preserve on account of the valuable species of timber growing there or on account of the scientific forestry improvements introduced. In general, the expropriations do not affect the territories which have manifestly a greater value if they are used for purposes other than land settlement. It may be remarked here that the land owner may keep for himself as much land as he requires, with the view to each of his children receiving a property of 40 or 95 hectares. The fact that a land is leased or placed in some other manner at the disposal of a third party does not prevent it from being expropriated, if the tenant does not enjoy the right of redemption. On the farms or State lands belonging to ecclesiastics or chantries, only the parcels can be expropriated which are liable to be sold in conformity with the Law of 4 August 1922 after the scheme for utilisation drawn up in accordance with the law has been approved.

The procedure in regard to an expropriation is as follows: the local land settlement committee prepares, on the basis of an extract from the land survey obtained from the Surveyors' Office of the department, a list of land owners who are liable to expropriation. The estates are entered on this list in the order in which they will be submitted to expropriation. The first place is given to neglected estates or those which are the subject of speculation, then those belonging to associations, companies and co-operative societies for the sale of timber the sole object of which is not farming. Then come the scattered parcels of large estates and lands that can be utilised for land settlement while inflicting the least injury on the owner. In the last place come the estates where there has been purchased, in accordance with the law on land settlement, the largest area which can be appropriated of rented lands subject to the law on the purchase of lands.

On the basis of this list, the committee next establishes with the assistance of the inspector of land settlement, a preliminary scheme for the purchase of lands. In this scheme are indicated the number of hectares which can be expropriated on the estates, and what lands the commission proposes to purchase. The scheme must be exhibited, accompanied by maps and plans, at the Town hall and land owners and applicants for land have the right to offer remarks on the subject at a special meeting of the committee. If the owner prefers to surrender lands in another locality than that proposed by the committee, the wishes of the owner must be respected, when the land is such that an applicant can fairly be installed. If the owner owns several properties in the commune, one of these may be expropriated as a whole on his request while the obligation ceases for all the others.

After that, taking into account so far as possible the observations made, the committee draws out a definitive scheme in which appear the parcels of each estate which will be expropriated and the number of lands for cultivation, the home-

steads or additional lands for settlement. According to the principles explained in the law on land settlement in State forests, and with due regard to local conditions for agriculture and trade, agricultural lands must acquire in addition at most 20 hectares of cultivated or cultivable lands and enough wooded lands for the normal growth to supply the requirements of the property. In Southern Finland and in similar regions not more than 20 hectares of forests in growth may be given and not more than 75 hectares in Lapland and in the regions of Northern Finland resembling Lapland. Land for homesteads must be such as to make possible, in addition to land for the buildings, a kitchen garden and a potato field large enough for requirements. The homesteads will not be more than 2 hectares, unless the position of the parcels or other causes make a larger area essential. The price of the parcels to be surrendered is estimated according to the prices ruling in the district; however for land intended for cultivation not more should be paid than the price paid on the average over the last five years in the sales by private contract in the district for similar lands purchased for a farm. The sowings, the valuable trees, the buildings and the other advantages purchased with the land are always paid at current rates. As valuable trees must be considered all conifers the diameter of which is 18 cm. or more at a height of six metres from the ground, as well as all trees which have special value on account of their size, their kind or their rarity. The land purchase plan, in respect of which the applicants and the landowners may hand in objections in writing, is then sent to the Land Settlement Department for approval. The decision of the Department, which is communicated to these concerned by the committee, may be submitted by the landowners, but not by the applicants, to the Land Distribution Tribunal for approval. Appeal against the judgment of this Tribunal may be made to the Supreme Court.

The State pays in advance the purchase price to the owner, partly in cash and partly in bonds at 7 per cent. or lower according to the rate of interest ruling. If the price is 5000 marks or less, it is paid entirely in money, as is the price of the sowings, the valuable trees and the buildings. The landowner may draw this sum from the State Bank on 1 May of the year following the registration of the new settlement holding in the Land Register.

If the settler has not made a homestead within the three years following his entry into possession, and if, in the case of a holding intended for cultivation, he has not begun to farm it, the Land Settlement Department may on the proposal of the committee declare that he has forfeited his rights to the property. He will then be repaid whatever he has already paid for his holding, less however any depreciation there may be as a result of neglect or the sale of timber.

A brief mention may be made of the provisions of the land settlement law on the subject of the holdings acquired by the limited liability companies engaged in the timber trade in evasion of the law. According to the Ordinance of 15 January 1925, those companies, co-operative societies and associations which engage in the timber trade, in saw milling or in any industry which utilises forest products as raw materials, have not the right to acquire cultivated or cultivable parcels along with the forests that are essential to their activity, except by permission granted in each case by the Government. A number of societies have not however conformed to these provisions, but have purchased entire estates in the name of companies formed for the purpose or in the name of fictitious buyers. Statistics show that in 1925-26, such bodies had succeeded in securing 174 estates for a total area of 351,075 hectares. With a view to the readjustment of so confused a legal situation, in respect of estates acquired illegally by the timber

companies, it was enacted in the Law known as the Law on Surrender of 5 May 1925, that the companies must surrender in the first place the lands in respect of which they had no right in virtue of the Ordinance of 1915, and the lands required for land settlement. The Land Settlement Department must, after enquiry, decide which parts of the estates are to be surrendered and after that the companies have three years in which to sell the lands to be surrendered. Although the object of the law is to make these lands available for landless persons, it is not intended to force the companies to act in this way, and all that has been done is to require them to offer these lands first to the State, then to the commune, in order that the land settlement authorities may be able to see that the lands suitable for land settlement are utilised for that purpose. It is not yet possible to state the extent of the lands which are to be surrendered in the 771 estates notified to the Department, as the law has only just come into force. Judging from the enquiries already made, it seems that the law imposing this restoration must have a great influence on the supply of additional lands for holdings that are too small, especially in many cases on that of wooded and pasture lands. The law does not fix the purchase price of these lands, but as the profit made on them must be paid to the State, there is no reason to think that any great difficulties will be encountered in this connection.

6. The voluntary land settlement work of the State.

This work is effected under the management of the Land Settlement Department and the land settlement committees with the funds of the Land Settlement Bank, in accordance with the law of 3 June 1927 on the financing of land settlement. The funds are administered by the Department and utilised: (a) for the purchase of estates by the State in view of the land settlement; (b) for granting loans to communes for enabling them to buy estates suitable for land settlement; (c) for making loans on short term through the intermediary of the commune and on its security, to persons who have voluntarily sold lands in accordance with the law on land settlement; (d) for granting loans to communes for the purpose of making land settlement loans in accordance with the law, for the erection of the necessary buildings and for clearing for the first crops, to persons who have the legal right to acquire lands. Loans may also be made from the land settlement fund to communes who use them to give subsidies to meet the purchase price of lands to persons who have purchased land previously rented, or who have in some other way procured lands with a view to taking up farming, and who have acquired these lands after 1 January 1918 without having had recourse to State aid to pay the purchase price. The holders of lands previously rented may in addition obtain loans for erection of necessary buildings or for their repair.

Loans are granted for the following purposes:

(a) for the purchase of an agricultural holding which must include such an extent of cultivated and cultivable lands that an average family can conveniently cultivate it mainly by their own labour. This area is in South Finland five hectares at least, and as a rule not more than 20 hectares in all of cultivated and cultivable land. In addition a sufficient extent of forest land for its normal growth to supply the wood for the holding is included up to 20 hectares in Southern Finland and similar regions, and in Lapland and the similar regions of Northern Finland up to not more than 55 hectares;

(b) for the purchase of a homestead holding which must include at least enough land to make possible, in addition to the building land, a garden and a

potato field of adequate size, the whole not to exceed 2 hectares, unless the situation of the parcels or other circumstances make a larger area essential;

(c) for the purchase of additional lands intended, together with the holding already formed to constitute an agricultural holding similar to those coming under (a) ;

(d) for the erection of the necessary buildings on the new holdings which were without dwelling house or stabling at the time of application for the loan, and for erection of buildings and especially stabling becoming necessary after the purchase of supplementary lands ;

(e) under the form of cultivation loans for the clearing of lands not previously brought under cultivation, for the sinking of drains and the construction of roads on the new holdings which did not possess enough cleared land, or on holdings, formed only by the purchase of additional lands ;

(f) for the purchase of supplementary pastureland and for making meadow land ;

(g) under the form of exceptional loan to the owner of a feudal holding freed from dues or of a farm, for the payment of the part not paid of the price of his lands or of the debt contracted.

Anyone receiving a loan from the fund for the purchase of lands is required to show : 1. that he has attained the age of majority and has not been convicted of an offence entailing forfeiture of civil rights, and that he has free disposal of himself and his property ; 2. that he does not already possess land, nor occupy in tenancy any rented land which he is entitled to purchase in accordance with the law in force on purchase of rented lands ; 3. that he undertakes within a term of three years from the time he enters into possession of his holding to build thereon a dwelling house if one is not included in the purchase with the holding, and also if the holding is one intended for farming, to begin its cultivation ; 4. that he is not in a position to acquire at the same time and independently of State assistance another plot of land and to erect on it the necessary buildings ; 5. that he has not formerly owned a holding so constituted by the State land settlement policy or that of the commune, or purchased under the legislation in force on the purchase of rented lands, and subsequently disposed of such land for speculative purposes.

In addition, any person desirous of obtaining a loan for the purchase of land for cultivation must be capable of farming it and must possess the necessary implements or have sufficient credit or resources for their purchase. Children of a landowner or of a tenant are equally eligible to obtain a loan on the conditions set out ; in the case of an owner dying after making application for the loan, his son has the right to obtain it since the land is to be purchased from a property a share of which he would have inherited.

The owner of an already existing holding or the tenant of a rented land who is cultivating his property or his rented land systematically and who has cleared the cultivable lands so as to bring them under cultivation and who wishes to acquire more land may, if his request is considered to be well grounded and necessary, obtain a loan. Anyone applying to the fund for a building loan must show that he has acquired an agricultural holding or a homestead or additional lands for settlement. Anyone applying for a cultivation loan must show that he has acquired an agricultural holding or additional lands.

At the time of the examination of applications for building or cultivation loans, it must also be established that no price higher than that prescribed by the law has been paid for the holding or for the additional lands and that the economic position of the applicant is not compromised by debts contracted.

Holdings established by the help of the funds of the bank and transferred with right of possession to the landless population, and also the holdings the formation of which is facilitated by these funds, must be subject to the legislation in force on land settlement holdings:

The Land Settlement Fund loans are given on the surety of at least two persons who are shown to be solvent and who are approved by the Committee. If the loan exceeds 5000 marks, a mortgage must always be obtained on the property. The lower limit of the loans is 1000 marks. For the purchase of agricultural holdings and additional lands, loans of 60,000 marks at most are made, for the purchase of homesteads, loans, of 15,000 marks at most. For buildings on the agricultural holdings, loans of 20,000 marks at most are granted, and for additional lands, loans of 15,000 marks at most, not however more than 75 per cent. of the value of buildings, and for crops at most 75 per cent. of actual expenses without exceeding 15,000 marks.

On loans for the purchase of lands, given by the fund, the interest is in general 4 per cent. per annum, and on loans for building or cultivation it is 5 per cent. per annum. The loans for the purchase of agricultural holdings and additional lands must be amortised at latest in 22 years and those for the purchase of a homestead in 15 years at most. The building loans must be repaid by amortisation in a period of 10 to 20 years and cultivation loans in a period of from 5 to 15 years.

Loans for purchase of additional pasturelands are granted on farmland where the area of the cultivated fields is at most 10 hectares, the maximum sum loaned being 6,000 marks. An additional 6,000 marks at most may be lent for formation of meadows on farmlands of the area stated. Exceptional loans are granted under certain restrictions up to the end of 1929, to independent tenants and to other small holders, for the payment of the part not yet paid of the price of the land or of the debt contracted for this purchase.

Out of the funds allotted by the Legislature for the land settlement work of the State, a sum of 2 millions of marks was in 1922 placed at the disposal of the Department of Land Settlement for improvement of housing accommodation of agricultural workers. During the years that followed, the Department also received fresh subsidies for this purpose, so that at the end of 1928 the total sum available was 21,143,000 Finnish marks. In accordance with the lines laid down on 15 July 1922 by the Council of Ministers, loans are made from this fund through the communes to persons depending for their livelihood on farm work or subsidiary occupations or on manual or vocational occupations in connection with agriculture. The loans are granted for the construction of dwellings, consisting of two or three rooms, that can be heated, on land belonging to the applicant or on State land or communal land the lease of which must run for at least 20 years. The land settlement committee of the commune deals with the allocation of these loans as well as of the land settlement funds, but these loans with the building plans must be submitted to the approval of the Department. The loans vary between 5,000 and 12,000 marks, but they must not exceed 75 per cent. of the value of the buildings. The interest is four and a half per cent. and the loan is amortised in 15 years. Out of the interest, the commune is empowered to use one per cent. to cover expenses, the remainder, three and a half per cent. may be distributed by the Department of Land Settlement under the form of building prizes of 500 to 1500 marks to those who have obtained the loans. Up to the end of 1928, the Department has granted in all 2,594 building loans.

In 1927, a law was passed relating to the fund to provide "homes for all", a fund from which loans for the objects already mentioned may also be allotted.

7. — *The law on land settlement holdings.*

As the State and individuals have made sacrifices and will continue to make them in order to improve, by the help of land settlement, the position of the landless population, it is essential to see to it that what has been achieved may be maintained. For this reason it is not possible to leave quite apart from State supervision and control the holdings formed for the landless population. The law of 1918 on the expropriation of lands held on farming lease and the ordinance of the same year on small holdings, already contained provisions restricting the enjoyment of these holdings. These provisions have now been cancelled and are replaced by the law of 29 May on land settlement holdings.

Under this law fall all the holdings formed by expropriation in virtue of the law of 1918 in regard to the purchase of rented lands and of that of 1924 on fishing tenures, as well as holdings formed by the purchase, by voluntary agreement, of rented lands, and paid for in advance out of the public funds. The law applies also to holdings formed for land settlement purposes, by purchase or otherwise, on farms on State lands and the wooded lands of the State and on the farms on ecclesiastical lands. It applied also to holdings formed in virtue of the law on land settlement, and to holdings established either directly or indirectly by the State or the commune for the benefit of the landless population, or to those the establishment or purchase of which has been facilitated by State loans. The object of this law is to secure that these holdings remain in the hands of the landless population; it is also intended to prevent speculation and to keep the price of holdings in relation to their value and their yield capacity, so that, even if the land settlement holding changes hands, the new holder can make something out of it and even prosper in spite of the price which he has to pay. With this object first the State, and then the commune have the right, when a holding which was formerly a land settlement holding or a part of one is sold or changes owner, to repurchase it with priority at a price estimated in the manner prescribed by the law. In addition the permission of the land settlement committee must be asked for the leasing of a land settlement holding or of a part of one, and the committee may forbid the same person to own several land settlement holdings. Such a holding can no longer be divided between owners without the consent of the committee. In addition if the holding has been formed in virtue of the law of 1918 on the expropriation of rented lands, the crops and the buildings must be maintained in good condition and insured against fire, otherwise the expropriation price paid in advance by the State may be revoked.

The law does not limit the right of the owner to sell timber belonging to the holding; sale of timber is only prohibited during the time that the agricultural holdings are subject to priority of purchase by the State or the commune. On the other hand, by the law of 28 April 1925, the utilisation of forests is restricted on agricultural holdings which were formerly land settlement holdings and are formed on the State forests and State lands or ecclesiastical lands or constituted in virtue of the land settlement law. In so far as such a holding is a pledge for the credit of the State, and in so far as it is a question of holdings formed in the State forests or in accordance with the land settlement law, on which the necessary dwelling houses and farm buildings have not been erected, nor have as much as two hectares of farmland been cleared and brought under cultivation, the timber cannot be sold if the probable consequence would be to interfere with the regular meeting of requirements of the holding in forest products or to render the credit of the State insecure. It is for this reason that the settler must give notice 30

days in advance to the local land settlement committee of any cuttings he intends to make and the committee may forbid the sale or felling of the timber.

The holding remains subject to the provisions of the law during 20 years beginning from the time of registration on the Land Register. A holding formed in the State forests or in virtue of the land settlement law is however only freed on the basis of a decision of the Department of Land Settlement as soon as there has been constructed on the homestead a dwelling house and outhouses and as soon as at least two hectares of farmland has been brought under cultivation.

III. — THE RESULTS OF THE LAND SETTLEMENT WORK.

1. *The conversion of rented lands into freehold.*

This undertaking is nearly completed. Up to the end of 1925 the farm leasing committees dealt with in all 90,296 purchasers of rented lands (1) including 80,252 feudal holdings situated on private property, 5,128 such holdings situated on lands on ecclesiastical property and 4,617 on those of State lands, as well as 299 fishing leases. In addition the application has been made for the purchase of 2,175 feudal holdings situated on the State forest lands. Thus at the end of 1925, the purchase of 92,471 holdings had been carried out or requested. This figure does not include rented lands which have been purchased without the agency of the farm leasing committees. An estimate of a little over 100,000 may be made of the number of tenures converted into freehold since 1918. At the end of 1928, the land survey officers had delimited in all 101,949 former holdings which had become independent. As has already been mentioned the farm leasing committees have to endeavour to secure that the persons concerned agree among themselves as to the purchase transaction. Satisfactory results have been attained, as nearly half of the purchase transactions have been settled by agreement.

Out of the distribution decisions relating to the holdings converted into freehold and allocated, up to the end of 1927, up to the present time 66,508 have been examined. These distribution decisions related to 23,617 holdings and 24,411 homestead plots. The average area of the holdings converted into freehold is 18.5 hectares, including 4.7 hectares of cultivated lands, 13.3 hectares of land which is cultivable but not utilised and of wooded lands, and 0.5 hectares of non cultivable lands. The average area of the homestead plots is 0.76 hectare, including 0.35 hectare of cultivated lands, 0.39 ha. of lands cultivable but not utilised and of wooded lands and 0.02 ha. of non cultivable lands. The average price at which the holdings were purchased was 8,667 marks or 468 marks per hectare. For the homestead plots, the corresponding prices were 826 and 1,079 marks.

2. *The voluntary land settlement work of the State*

At the end of 1926, the land settlement fund amounted to 160 million marks, later at the end of 1928, to 253.5 million marks, including 55 millions of borrowed money. At the end of 1926 there had been purchased with the resources of this fund 11,960 agricultural holdings, 6,746 homesteads and 5,216 additional

(1) The number of tenants who became landowners from 1920 to 1927 was 96,587. Kyösti Haataja: *Land Reform in Finland. Bank of Finland. No. 12, Helsingfors, December 1928.*

lands of various types (1). Of these holdings 20,923 were bought by means of the land settlement banks, 439 by the communes, 267 by the co-operative societies for land purchase and 2,293 for the account of the State. The land settlement fund has granted 14,467 building loans and 5,255 cultivation loans. In this way the fund up to that date had provided 491,645 hectares of lands for settlement (2). The average size of the agricultural holdings constituted by the direct land settlement work of the State was 38.3 hectares, and that of the homesteads was 2.8 hectares; before 1920 the average price of the hectare with buildings and forests was 88 marks, and after 1920 it became 725 marks. The average area of the agricultural holdings purchased through the land settlement banks was 27.8 hectares and that of homesteads 2.3 hectares, up to 1 May 1924; after that date, the former have an average area of 24.5 ha. and the latter of 1.9 ha., the average area of additional lands being 8.7 ha. Before 1920 the purchase price was 107 marks per hectare, and 864 marks after that date.

The work of land settlement has thus increased by nearly 100,000 the number of independent holdings. If on the basis of the statistics of 1901, it is reckoned that each household may be counted as on an average five persons, it is seen that nearly half a million persons, or 15 per cent. of the population of Finland have benefited by the work of land settlement. In 1901, there were in Finland 110,629 independent agricultural holdings. In 1910, the households had 125,172 independent holdings of more than 0.5 hectare of farmland; in 1920, this number had become 182,373 and in 1930 it will probably approach 300,000.

The proportion between the different size groups of farm holdings in Finland appears from the figures of the 1920 statistics. The following table gives the number of holdings in 1920 of areas varying as shown:

All Rented Holdings.

0.5-3 ha			3-10 ha			10-25 ha			25-50 ha			50-100			100 and upwards		
Independent	Rented	Communal	Independent	Rented	Communal	Independent	Rented	Communal	Independent	Rented	Communal	Independent	Rented	Communal	Independent	Rented	Communal
NUMBER																	
58,601	42,873	96,474	77,867	20,301	98,258	37,042	4,077	41,109	10,345	780	11,125	2,634	202	2,836	884	53	937
PERCENTAGE																	
20.4	62.7	38.5	42.7	20.8	39.2	20.3	6.0	16.4	5.7	1.1	4.4	1.4	0.3	1.1	0.5	0.1	0.4

These figures show clearly that Finland is a country of small holdings.

As regards the composition of the farming class, there are no statistics later than 1901, so that the figures given below are no longer as existent. This year

(1) At the end of 1927, the respective figures were 13,419, 7,346 and 6,167 (*Statistical Yearbook of Finland*, Helsingfors, 1928, p. 286).

(2) Up to the end of 1927 this fund has supplied 533,026 hectares for the indicated purpose (*Ibidem*).

the agricultural population which constituted 63.1 of the population of the whole country was distributed as follows by households :

Households of					
Landowners	Tenants of the Crown	Tenants	Hut occupiers	Farm labourers engaged by year	Job or seasonal labourers
94,484 32.5 %	8,715 3.0 %	48,043 16.8 %	57,364 19.8 %	17,813 5.9 %	181,105 22.6 %

In reply to the question as to whether the land settlement work has contributed to increase crop production and at the same time to make it more systematic, exact numerical data cannot be furnished. It may however be readily noted that agriculture has in the last few years made great progress on the holdings which have been purchased and that a most commendable interest and zeal has been shown by the new holders for the improvement of their property.

It is the custom in Finland for purposes of soil improvement to put clay or sand on the fields in the case of marshy lands and to put marsh soil on the hard soils. The utilisation of lime for soil improvement is somewhat rare.

These last years, no changes of any note have been made in the distribution of the fields among the different crops. The distribution in percentages for the years 1910, 1920 and 1923 is shown here :

Cereals	1910	1929	1926 (1)
Cereals	41.3	38.3	38.2
Hay and green forage	41.4	46.1	47.1
Potatoes and tubers	4.6	4.1	4.2
Fallow	12.5	10.0	9.6
Miscellaneous	0.2	1.5	0.9
	100.0	100.0	100.0

Over the whole of Finland, the area in hay has thus increased while the cultivation of cereals and the fallow land has diminished during the same time.

Cereal crops are grown in Finland solely for the requirements of the country itself. The proportion of the different cereals in the total area of the fields is here shown for 1910, 1920 and 1925.

	1910	1929	1925 (1)
Wheat	0.2	0.5	0.7
Rye	12.9	11.5	11.0
Barley	5.9	5.8	5.1
Oats	21.4	19.6	20.4
Meslin	0.4	0.4	0.5
Peas	0.5	0.5	0.5
Total	41.3	38.3	38.2

(1) In 1927 the distribution was as follows : cereals 38.3, hay and green forage 47.6, potatoes and tubers 4.4, fallow 8.9, other crops 0.8 per cent. (*Ibidem*, pp. 80-81).

(2) In 1927 the corresponding figures were as follows : 0.8; 10.6; 5.0; 20.8; 0.5; and 0.6. (*Ibidem*).

The largest proportional increase is thus that of wheat. The area devoted to the cultivation of barley and rye has diminished, and that of oats and the other cereals remains the same.

The only industrial plants grown in Finland are the sugar beet, flax and hops. There is one factory for the utilisation of beet. The area under sugar beet is only about 1,000 hectares, but it is increasing yearly. The area under hops and flax expressed as a percentage of the total area under cultivation for 1910, 1920, and 1925, is as follows:

	1910	1920	1925 (2)
Hops	0.08	} 0.3	0.3
Flax	0.30		

The eight hours' day is in force in Finland. In agriculture, the working day is considerably longer than eight hours in summer and shorter in winter. On the peasant holdings where the work is done by the persons owning the land the working day is as a rule perceptibly longer. The Society for improvement of output from work, which has been active in Finland for a number of years, has done much to render work more effective in agriculture.

The manufacture of farm machinery in Finland is considerable and machines are even manufactured for export. The volume of this export is about 10,000,000 marks per annum. In particular there is an export of separators. Agricultural machinery is imported yearly to the value of about 30,000,000 marks, mainly reapers, seed-drills, harvesters and electric motor engines. The demand for ploughs, harrows, threshers, steam tractors and motor engines is covered by the home manufacture.

At the end of 1925 there were in Finland 575 dairies, including 455 co-operative dairies. In 1926 the output was 18,000,000 kilogrammes of butter and 3,600,000 kg. of cheese (2). After the products of the timber industry, butter and cheese are the main articles of export from Finland, and in 1925 the value of the exports of butter and cheese was 555,000,000 marks. In that year, the value of the exports of agricultural products was 773,000,000 marks, or 13.9 of the value of the total exports (3).

Among the other industrial establishments which handle agricultural products, the following may be mentioned: a sugar factory utilising the products of an area of about 100 hectares in South-west Finland; a linen factory the annual output of which amounts to about 50,000,000 marks; while the value of the output of the flour mills is about 400,000,000 marks.

Loans for the erection of dwelling houses and farm buildings are made to the

(1) The percentage of flax and hemp taken together in 1927 was 0.2. There is no special return for hops (*Ibid.*).

(2) At the end of 1927, the number of dairies was 611, including 505 co-operative. The total production of butter in 1927 was 22,320,000 kg., that of the co-operative dairies was 20,979,000 kg. In the same year the cheese production was 4,189,000 kg., of which 2,826,000 kg. were produced by the co-operative dairies (*Ibid.* p. 86-87).

(3) In 1928, the value of the butter and cheese export was 490,844,000 marks. The butter export in 1927 was 15,076 and in 1928, 13,376 tons. The decrease was mainly due to the increase in the home consumption. Increased exports of butter are however reported for the first five months of 1929, the export being during that period 8,005 tons, as compared with 6,096 tons in the first period of 1928 (*Finnish Trade*, Nos. 4-5. Helsingfors April-May 1929, pp. 72-73).

occupiers of new holdings from the land settlement banks. Up to the end of 1928, the total number of loans of this type made was 20,709, the average value being 7.685 marks. The land settlement banks also grant cultivation loans, 5,255 having been granted up to the end of 1926, the average amount of the loan being 3,642 marks.

3. *Agricultural credit.*

The following organisations provide agricultural credit in Finland: the Mortgage Company of Finland, the Savings Banks, the co-operative banks, insurance companies, and also certain funds and commercial banks.

At the end of 1928, the total amount granted in mortgage long term credit to farmers by the different financing organisations was as follows:

Savings banks	475	millions of marks
Mortgage Company of Finland	163.5	» »
Co-operative banks	107	» »
Life Insurance Companies	483	» »
Agricultural Land Bank, Ltd.	11.7	» »
"Kansallis-Osake-Pankki" Bank	11.7	» »
Total	1,250.0	millions of marks

The co-operative banks, the savings banks and the commercial banks provide credit for working capital for agriculture.

At the end of 1927, there were 1,399 co-operative banks and the Central Loan Fund of the co-operative banks had credits for a total of 531 million marks. The capital at the disposal of this Central Fund is for the most part derived from loans made to it by the State.

In addition to these credits, the State has granted to the agricultural population credits for other purposes, also, either directly or through the communes and the co-operative banks. The total of the credits granted by the State amounted at the end of 1926 to more than 350 million marks.

4. *The productivity of agriculture.*

The proportion of working capital in the total capital engaged in agriculture has increased since the world war. This is a result of the utilisation of machinery and of the efforts which have been made to improve the quality of the live stock, more especially of the cattle.

The much larger utilisation of fertilisers, a more effective cultivation and the introduction of improved seeds have noticeably increased the natural production of farming. The value of this production of course varies very much from one year to another, according to the prices.

During the accounting year 1925-26, the percentage of the profit capacity of agriculture in Finland was on an average 6.2 per cent., but on the basis of estimates made subsequently, it shows a tendency to fall so as to bring it below 5 per cent.

(1) In 1926-27 the percentage return on capital engaged was on an average 4.9 (*Statistical Yearbook of Finland*, 1928, p. 90).

for the year 1926-27 (1). As the capital invested in buildings and the working capital, as well as the total capital engaged in agriculture are proportionately greater for the small holders than for the medium or large holders, the percentage of profit capacity is as a rule lower with the small peasant farmers than with the large farmers. On the contrary the net cash return per unit of area increases regularly as the area diminishes.

The total production of agriculture in the strict sense is estimated at the present time at 6 milliards of marks, or about 40 per cent. of the social income of the whole country. The net profit of agriculture is at present about 900 million marks, or one twentieth of the total income of the whole of Finland. In 1925-26, on the holdings where accounting was carried out, the gross income was 2,631 marks per hectare, the costs of farming 2,132 marks per hectare, leaving a net profit of 499 marks per hectare (1). It should however be observed that more energy is expended on the cultivation of such holdings than on the others, on the average, in Finland.

The following are the figures for the different size groups :

Area of field	Per hectare of cultivated fields		
	Gross income marks	Farming cost marks	Net profit marks
Less than 10 hectares	4,195	3,582	613
10-25 hectares	2,864	2,444	420
25-50 hectares	2,727	2,118	609
50-100 hectares	2,388	1,914	474
over 100 »	2,383	1,917	466

5. Trade in agricultural products.

During the last few years the peasant farmers have sold on the market nearly 60 per cent. of their total production. In 1925, agricultural products have been exported for a value of 773 million marks, and in the same year cereals and their derivatives have been imported to a value of 965 million marks, as well as animal food stuffs, especially pork meats and preserved meats, with fish, to a value of 110 million marks, fruits, etc. for 108 million marks, sugar for 367 million marks, in all, 1,442 million marks. In addition forage has been imported to the value of 249 million marks. In this same year the total value of the exports was 5,552 million marks, and the total imports 5,519 million marks (2). The central Union

(1) In 1926-27 the average gross income per hectare was 2,720 marks, the farming costs 2,284 marks, and the net income 436 marks per ha. (*Ibidem*).

(2) In 1927 the total value of the agricultural products exported was 735,777,000 marks and the same year that of the cereals and derivatives imported was 653,318,000 marks, this being the principal item of the imports. Foodstuffs of animal origin were imported to a value of 113,919,000 marks, and fruits, vegetables, etc. for 139,463,000 marks. The same year the value of the total exports was 6,286,507,000 marks and that of the imports was 6,385,881,000 marks. The timber export and export of worked timber represents in itself more than half the whole export and it amounts to 3,711,102,000 marks (*Ibidem*, pp. 120-121). The total of the exports for 1928 has somewhat diminished in comparison with 1927; the 1928 figure is 6,243,300,000 marks, while the imports have increased very considerably amounting to 8,011,800,000 marks. During the same period, the timber export fell to 3,481,300,000 marks, while the value of the cereal import rose to 993,300,000 marks; the import of forage and of seeds rose from 266,100,000 marks in 1927 to 432,900,000 marks in 1928, etc. (*Bank of Finland*, No. 1, January 1929).

of co-operative dairies, "Valio", takes a leading position as regards the export of agricultural products. The Central Co-operative society "Hankkija" is a large undertaking which has a large proportion of the trade in farm requisites. There is a considerable diffusion of co-operative societies in the country districts.

The official testing station deals with the quality of the butter and cheese for export. For facilitating export, wharfs, warehouses and ice-breakers have been built.

6. Prices of agricultural products and requisites.

For 1924-25 the index-number of agricultural products had been calculated at 1,166 and that of the farm requisites at 1,021 (1). The following are the average prices of the principal products and requisites in Finnish marks during the financial year 1926-1927:

Milk 10 kg.	15.2 marks	Soya beans 100 kg. . .	210.0 marks
Butter 100 kg.	294 "	Chili nitrate 100 kg. .	275 "
Cheese 10 kg.	131 "	Norwegian nitrate 100kg.	195 "
Beef 10 kg.	75 "	Bone meal 100 kg. . .	108 "
Pork 10 kg.	127 "	Superphosphate 100 kg.	77 "
Rye 100 kg.	240 "	Basic slag 100 kg. . .	55 "
Barley 100 kg.	220 "	Potash salts 100 kg. .	122 "
Oats 100 kg.	165 "	Cement barrel	112 "
Potatoes 100 kg	70 "	Bricks per 100	750 "
		Nails 10 kg.	38 "

7. The drift to the country districts.

In the regions of the Carelian Isthmus bordering on the Russian frontier there is an excessive influx of population and an exaggerated splitting up of holdings. These conditions have been produced under the influence of the neighbourhood of St. Petersburg (Leningrad) with its millions of inhabitants, and the position has not been much improved since the independence of Finland.

In the work of land settlement it is endeavoured to find land for applicants in their native land. For the present there is no settlement by immigration. No emigration from the towns to the country districts has taken place as the result of the land settlement activity.

(1) The index-number of the wholesale prices of agricultural products and manufactured products and of the prices of exported and imported products, has undergone during the years 1926-1927 the following variations (1913 = 100).

	1926	1927	1928
Animal products	133	132	142
Plant products	168	168	158
Textile products	153	155	165
All products	142	145	145
Products prepared and consumed in the country	143	145	147
Imported products	144	145	141
Exported products	137	146	145

(Bank of Finland, No. 3, March 1929).

8. *Insurance in the country districts.*

There is in force in Finland a workers' insurance applying to all the workers who work at least 6 days per year. The number of insured persons is at present 60,000.

There is no hail insurance. Fire insurance is general although total of insurances is relatively low, especially in consequence of the inflation in the price of buildings. Live stock insurance is somewhat rare in Finland; only 1.8 per cent. of the cattle and 9 per cent. of the horses are insured.

9. *The agricultural balance sheet.*

A few estates only undertake regular book-keeping. The large estates, belonging to industrial establishments, to the State and to the communes, as well as the large private estates have of course adopted farm book-keeping. There are nearly 400 estates which keep accounts in such a method that the Department of Agriculture can make calculations as to the output of agriculture.

It should be noted that even small farming gives a profit in addition to the earnings of agricultural work. A statement has been made as to these profits on agriculture earlier in connection with the productivity.

On the balance sheet, account is taken on the side of expenditure not only of the inventory, but also of the cash expenses necessitated by the farming, the cost of boarding the farm hands, the labour earnings of the farmer and family, the forest products utilised in agriculture and the pasture products used in the forests. On the receipts side, the agricultural capital at the end of the year, the income in cash from the farming, the contributions in kind to the benefit of the other branches of the economy, such as food and housekeeping expenses, forest economy, subsidiary earnings and private economy.

In the money income of cultivators in Finland, agricultural returns constitute 70 per cent., forest returns 15 per cent. and subsidiary earnings 10 per cent., the remainder 5 per cent., coming from lodging, board and private sources. Out of the expenditure in money, 60 per cent. go to farming, 9 per cent. to board, 10 per cent. to taxes, interest and pensions, and about 15 per cent. to private expenditure. Expenditure for forest requirements and for subsidiary sources of income are about 3 to 4 per cent.

10. *Taxation of farmers.*

The direct taxes of the peasant farmers constitute about 4 per cent. of the money expenditure of the peasant farmers. There are no figures available showing the total of indirect taxes.

11. *The general development of land settlement work.*

The work of converting the rented lands into freeholds is on the whole well developed and it will probably be completed in a few years.

The formation of new holdings and the remainder of the land settlement work will probably be carried on more actively in the course of the next few years.

On the whole the work of land settlement has exercised a favourable influence on social conditions in the provinces. There is, however, no exact information on this subject.

INSURANCE AND THRIFT

Agricultural Insurance in Certain Countries.

From a certain point of view, though a limited one, it may be said that the diffusion of insurance is an index of the intensity of agriculture; the more intensive the agriculture, the more capital is invested in the undertaking and the more advisable or necessary it is to ensure the stability of this investment and to safeguard it against unforeseen losses and risks.

A brief statement is here given of the position of insurance in the rural districts of certain countries which are mainly agricultural in type.

Bulgaria. — Agricultural insurance in Bulgaria includes two important branches: hail insurance and livestock insurance.

Hail insurance was introduced for the first time in 1895 in accordance with the law on the insurance of agricultural products against hail. Insurance was compulsory and the premiums were uniform. This law was repealed in 1903 as its application did not give the results expected. In 1910 at the time of the establishment of a Central Co-operative Bank, a section for hail insurance was formed. The insurance is on the basis of absolute freedom to co-operate, the period of insurance is one year and the grower is at liberty to insure his products or not. The premiums vary according to the nature of the crops and the regional conditions. The State grants subsidies on these insurances. In 1924 an amendment to this law was carried, and certain improvements were made which gave a new impulse to the extension of hail insurances. In 1911 out of 3,444 insurances to a total amount of 6,120,490 leva, the premiums amounted to 134,865 leva and the compensation payments to 126,974 leva. In 1928, the insurances numbered 71,105 for a total sum of 975,711,810 leva, the premiums amounted to 33,405,310 leva and the compensation payments to 9,272,438 leva.

Live stock insurances were established, in virtue of a law of 1911, under the form of an insurance of cattle in case of death or accident. In 1925 this law was modified and it now applies to all kinds of cattle utilised in rural economy. This insurance is also based on the principle of free co-operation, and local livestock insurance associations are the foundation of the whole system.

Every locality in which there are at least seven owners of cattle has an association and every native born inhabitant can insure his stock by becoming a member of the association. The premiums differ according to the kind of live stock and its estimated value. In 1912 there were three such associations in Bulgaria with a membership of 35 persons. The number of insurances taken out was 93 for a total amount of 17,800 leva. The premiums amounted to 191 leva and the compensation payments to 126 leva. In 1928 the registered associations of the kind numbered 658 with a total membership of 29,055 persons. The number of insurances taken out was 63,263 for a total amount of 329,155,100 leva. The premiums amounted to 6,226,806 leva and the compensation payments to 5,347,738 leva. From these figures it is possible to state that very tangible results have been obtained by agricultural insurance in Bulgaria.

Finland. — In Finland there is no hail insurance. Forest fire insurance amounted in 1926 to 1,749,114,000 marks. There were 128 fires in the State in 1927 over an area of 11,818 hectares (1). The live stock insurance includes only 1.8 per cent. of cattle and 9 per cent. of horses.

(1) Statistical Year-book of Finland. Helsingfors, 1928, pp. 96 and 193.

Greece. — Before the war, State assistance to growers who have suffered from hail and frosts was unknown in Greece, no measures having been taken to protect the rural populations against these disasters. It was not till 1920, when the law of 24 September was passed, that provision was made for the establishment of local unions of reinsurance and of co-operative insurance societies against the damage done by hail to vineyards, olive trees and to tobacco. A small additional tax was imposed by the law on the resulting products so as to enable the reinsurance unions to fulfil their functions. The receipts of this tax, the rate of which must be fixed by an administrative order, should come to the local co-operative reinsurance societies in accordance with the yield in each district. But as the administrative order was not made, the law was not applied. Accordingly the proceeds were employed of the special tax collected under the law of 1915 relating to the application of an additional contribution on exported raisins to insurance of cargoes of raisins against war risks. In 1926, the severe damage done by hail and by frosts obliged the State to regulate more carefully this important question. With this object the Government promulgated the Decree-Law of 2 July 1926 instituting a Central Bank of Insurance against hail and frosts. The function of this bank, which is a self-governing body legally constituted with special resources and an independent administration, is to provide reinsurance for the local co-operative insurance societies. The representation of the Bank is in the hands of the branches of the National Bank of Greece and of the Unions of agricultural co-operative societies. By the Decree-Law of 13 November 1927, that of 2 July 1926 has been ratified and to some extent modified.

The initial foundation capital of the Bank of insurance against hail and frost amounted to the sum of 8,925,611 drachmas coming from the fund which resulted from the administration of sulphur and copper sulphate by the State, and from the additional tax imposed in 1923 on currants and sultanias. In addition there are paid into this Bank the debts of growers who received compensation in 1926 and 1927 these debts representing a sum of 22,580,546 drachmas. This capital for the working of the Bank will increase every year by the following sums which are transferred to it as resources : 1. Contribution on currants : 2,750,000 drachmas ; 2. contribution on sultanias : 250,000 drachmas ; 3. Contribution on wine : 1,250,000 drachmas and 4. one-third of the contribution of the Bank of insurance of tobacco workers : 5,500,000 drachmas. To these resources the reinsurance premiums must be added paid to the Bank of insurance against hail and frost by the co-operative insurance societies.

The activities of the hail insurance bank have been somewhat curtailed in 1928. It is hoped that in 1929 they will be extended, as an intensive propaganda for this purpose is to be carried out with the rural populations.

Hungary. — In Hungary, the Farmers' Insurance Co-operative Society was founded on 10 December 1899. At that period, the farmers found themselves, particularly as regards hail insurance, completely at the mercy of insurance companies which had formed a trust and which after the great hail storms of 1897 and 1898 had increased the hail insurance premiums at one stroke by 100 per cent. The same situation occurred in regard to fire insurance. The energetic reaction of the farmers had as a result the formation of their own co-operative insurance society.

In spite of the very keen competition, the Farmers' Co-operative Insurance Society has been developed in an absolutely satisfactory manner. The financial anarchy of the post-war times obliged the Society provisionally to make an agreement with some large insurance companies and to unite itself with these with a

view to the protection of business and fixing the level of insurance premiums. With the stabilisation of the currency in Hungary, in 1927, the Co-operative Society drew out of the insurance companies' trust, and, by an agreement made with the National Chamber of Agriculture and the National Society of Agriculture of Hungary, it undertook to reduce by 20 to 40 per cent. its premium rates for agricultural fire insurances.

The Co-operative Society does not receive any grant or subsidy from the State, and the shares held by the State in the society are only for a nominal value of 1,238,400 pengó. The administration of the Society includes, besides the members chosen from within its numbers, also delegates of the Ministry of Agriculture, of the National Chamber of Agriculture and of the National Society of Agriculture of Hungary. At first it dealt only with fire and hail insurance but latterly it has introduced into its business life, accident and live stock insurance. At the end of the first year of working, that of 1901, the share capital of the Society was 1,668,080 crowns. At the end of the year 1925, in consequence of the monetary depreciation, it amounted only to 3,315,120 paper crowns, and in 1927 it amounted to 1,519,252 pengó. At the end of the first year, its reserves were 37,621 crowns, while in 1927 they amounted to 2,125,408 pengó. Receipts in the form of premiums amounted to 481,728 crowns and to 7,371,000 pengó in 1928. In 1901 the number of insured persons was 8,000, while at the end of 1928, the Co-operative Society already included 200,000 insured members. The Society has paid in the course of 1928 a total of 3,076,000 pengó in compensation for hail damage. In spite of severe competition and difficulties of various kinds, the Co-operative Insurance Society prospers and is constantly enlarging its activities.

Czechoslovakia. — The insurance of the various branches of agricultural production is not developed in Czechoslovakia in a way corresponding to the increasing intensification of agriculture. The risks attending agricultural production are however very considerable. On the basis of the crops of 1926 the whole crop production of the country is reckoned at 18 milliards of Czech crowns, 14.5 representing the value of plants insurable against hail. The value of the principal kinds of live stock, according to the 1923 census, is 16.6 milliards of crowns. Up to the present it is not possible to calculate all the losses resulting from risks of various kinds. If the loss of crop production is calculated at 0.75 per cent. of the products insurable against hail, a total of 100,000,000 crowns' worth of damage per year is obtained. According to the hail insurance societies, the total damages paid to the farmers is only 2 per cent. of insured products. The loss incurred by farmers in consequence of the premature death or forced slaughter of live stock suffering from infectious disease amounts to 400 million crowns. These two risks represents a half milliard of crowns, without speaking of other considerable losses due to frost, drought, rats, etc. Hail insurance in Czechoslovakia relates to 8 per cent. of the value of insurable crops (14.5 milliards of crowns), live stock insurance amounts only to 3 per cent. of the value of the farm animals, estimated as has already been stated at 16 and two-thirds milliards of crowns. Thus out of 31 milliards of crowns of insurable agricultural products only 6 per cent. are insured, i. e., 1.75 milliards of crowns; 29.25 milliards are not insured. Speaking generally, since the world war, hail insurance has been decreasing and is only half what it was before the war. Live stock insurance in Bohemia has fallen to one-quarter, in Moravia to one-third.

By the law of 1927 on insurance under which farmers whose products have suffered from hail are compensated, all farmers are obliged to pay an additional hundredth which goes to a compensation fund, but this law does not secure

adequate compensation. It is mainly for this reason that the Ministry of Agriculture has laid before Parliament in the spring of 1929 a bill on hail insurance and on live stock insurance. This insurance will be based on the mutual assistance of farmers against losses caused by hail, etc., and the State will also make a grant with the object of lowering the premiums. The Government has no intention of interfering in the affairs of private insurance institutions dealing with fire insurance, etc., and which carry on their business in a satisfactory way. But the other types of insurance, e. g., hail, frost, drought, excessive humidity, etc. should receive more attention so that the more urgent problems relating to insurance in the country districts may find solution.

M. T.

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ECONOMIC AND SOCIAL CONDITIONS OF THE AGRICULTURAL CLASSES

XIVth International Congress of Agriculture (Bucharest, 1929).

RESOLUTIONS PRESENTED BY SECTION 7 (WOMEN'S SECTION).

The Congress :

Considering that the conditions in which the woman has to carry out her duties in the country are as a rule unsatisfactory and that her work is too often beyond her strength thus preventing her from duly fulfilling her domestic and family responsibilities, recommends :

1. That every country should study the best means of rendering this work less arduous and of shortening the time devoted to it.

2. That there should be an organised propaganda to secure that the time saved by the woman in her vocational work should be used for the training of her children and for her own proper rest.

3. That Governments and other authorities should extend to the country districts the advantages which the public services provide for trade and industry, with special reference to :

(a) Extension of health services, both public and private ;

(b) Control of social evils ;

(c) Organisation of provident societies, etc. ;

(d) Lightening of rural labour by application of scientific methods to farm and household work ;

(e) Provision of water supplies ;

(f) Improved means of communication ;

(g) Supply of electric light and power ;

(h) Telephone facilities ;

(i) Broadcasting facilities ;

(j) Development of small home industries ;

(k) Meetings for purposes of recreation, so as to keep young people at home in their own village.

On the other hand, seeing that one of the most effective means of improving the position of the woman in the country is to be found in the development of instruction in farm household management, that it is the function of the higher household management schools to train those who will direct farm women's activities, and that the value of this training depends largely on the methods followed in these Schools, the Congress recommends that:

1. Such instruction should not be purely theoretical but be so organised as to obtain the maximum of results in all branches, the chief end in view being the training of the mother;
2. That instruction in child nurture and family training with their practical applications should form part of the curriculum in all forms of girls' education;
3. That all countries should provide for the organisation of farm women's associations and that these organisations, grouped in national federations, should become members of existing international vocational unions;
4. That statistical reports on women's work should be made in the different countries and that these reports accompanied with diagrams should be completed by exhibitions of documentary material organised on the occasion of the next Congress.
5. That in all important international agricultural meetings, especially such as take place at the International Institute at Rome, the Farm Women's Associations of each country should be represented by competent delegations.

CREDIT

Agricultural Mortgage Credit in Peru.

The need for a wide organisation of credit for agriculture was recognised by the passing of two laws (Nos. 6126 and 6127, 16 March 1928), the former establishing a Mortgage Bank of Peru, under the form of a limited share company and the other an intermediate agricultural credit society, under the name of *Crédito Agrícola Intermediario*, also in the form of a share company.

The Bank capital is fixed at one and a half million of Peruvian *libras*, divided into 150,000 shares of 10 Peruvian *libras* each, to be issued at par and divided as follows: 50,000 as Class A shares, 50,000 shares of Class B and 50,000 shares of Class C.

The shares of Class A are taken up by the State only; those of Class B only by banks, banking institutions formed in the Republic, or carrying out operations in the Republic in favour of individuals or of the State; those of Class C will be taken up or held only by Communes or by the public in general. If the whole 50,000 shares of classes B and C are not taken up in each case the State will take up the remainder, under reserve of reselling them afterwards to the Communes, if and when it is found to be convenient.

The Bank has headquarters in Lima, but can establish branches and agencies and appoint correspondents in any place, within or outside of the Republic.

The purpose of the Bank is to arrange loans guaranteed by first mortgage on rural lands and also on urban land and to make loans to Communes, guaranteed by first mortgage on special revenues of the Communes.

The Bank is empowered further to purchase or sell mortgage credits, and may accept as additional guarantee of its loans, other forms of security; as also it may acquire, administer, alienate in one way or another estates given to it as security, may pass on the collection of rents of the Communes, taken as loan guarantee; may issue bonds, purchase or negotiate them in any form and in general may make purchases of national and foreign notes and drafts; may acquire outstanding bills of exchange of mortgage banks already existing in Peru or shares of the *Crédito Agrícola Intermediario*; and make loans on special terms for irrigated lands

and to effect all operations which may be required in connection with the exercise of the principal functions already indicated.

The Administrative Council of the Bank is formed of nine members, including three appointed by the State as share-holders of Class A, three chosen by the Banks and other organisations which are shareholders in Class B and the other three by shareholders in Class C.

The total amount of the loans made by the Bank at any time cannot exceed ten times the paid up capital and the reserve fund, deducting the value paid for the shares of the *Crédito Intermediario* subscribed by the Bank.

Applications for loans for farming purposes have preference over all other applications.

The maximum period for which the loans are granted is fixed at 32 years from the date of concession. The limit of the value is 50 per cent. of the estimated value of the mortgaged property.

The loans are paid either in Peruvian currency or in American dollars or in English sterling.

All estates mortgaged on guarantee of loans must be insured for the duration of the loans against fire and other insurable risks. If lands devoted to horticulture are being mortgaged, the Bank is empowered to require that the machinery and the live stock and other capital assets shall be insured each year, as long as the loan is outstanding, against every kind of insurable risk.

The notes which can be issued by the Bank, payable in Peruvian money, in dollars or in sterling, are guaranteed by the loans made and by special funds deposited at the financial agents of the Bank abroad: the option being reserved to the Bank of substituting at any time a loan of a bill of exchange with other guarantees.

The notes of any series of issue are exempt from any kind of tax on capital, interest or premiums.

The notes, their negotiation, collection of debts and rights of the shareholders are safeguarded by numerous provisions in the law.

The net profits, after deduction of 20 per cent. for the reserve fund, will belong, up to 10 per cent. to the three classes of shareholders; the surplus profits up to 3 per cent., to the managers, the remainder up to 2 per cent. to the employees of the Bank, in proportion to their annual salaries and the actual remainder up to 10 per cent. will distributed as additional dividend; the greater part in any case going to the State.

The organisation of the Bank, summarised above, is completed as is technically correct by the establishment of the *Crédito Agrícola Intermediario del Perú*, which as already stated is a share company, and is under the same organising Committee as the Bank.

The Company has a capital of 500,000 Peruvian liras divided into 50,000 shares all taken up and held by the Mortgage Bank or its successors.

The institution makes loans guaranteed by pledges, or by warehouse receipts, and bills of lading; it discounts, purchases bills of exchange and other obligations of Banks of agricultural credit and of co-operative agricultural associations, secured by pledges; it accepts consignments of agricultural or stockfarming products for sale in Peru or abroad on the account of and at the risk of the consignors; it issues its own notes which it may buy or sell or negotiate and may in the same way effect any other operation useful to its own ends.

The Administrative Council of the *Crédito* is the same as that of the Bank. Loans shall never individually exceed the maximum sum of 40,000 Peruvian

liras, and the total amount of the loans must not exceed ten times the paid up capital and the reserve fund.

All arrangements for loans and their guarantees are in accordance with the provisions of the law of 13 December 1916, No. 2,402, which established the Register of the contracts on agricultural pledge. This law prescribes procedure for loans on pledge to farmers and stock-breeders, and the special right, belonging to the creditor, of levying distress, as well as the executive procedure, and orders the entry of every contract in a Register of Landed Property for the department to which the farm belongs, showing the goods given in pledge.

Law No. 6,127 add special rules and guarantees of loans made by the *Crédito Agrícola Intermediario*. In addition it lays down rules for the issue of notes of agricultural credit also payable in Peruvian *libras*, or in dollars or in sterling, and guaranteed by the pledges on the loans, or by sums deposited with the financial agencies in other countries.

The State guarantees unconditionally the punctual payment of the capital and interest of all the notes issued by the Mortgage Bank and that of the interest and amortisation of the notes of the *Crédito Agrícola*.

The net profits of the *Crédito Agrícola* are distributed in a similar way to those of the Mortgage Bank.

The capital, profits and dividends of the shares of this institution are also exempt from any kind of tax present or future.

E. F.

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[A systematic collection and compilation of all the particulars essential to a knowledge of the organisation of credit for agriculture in its various forms and in the principal countries. A historical introduction gives an account of this kind of credit from its beginnings up to the present day. A full bibliography, statistical tables and notes on economic geography are added].

MAJLÁTH, József Gróf: A magyar mezőgazdasági munkásság helyzete a háború előtt, alatt és után "Magyar Caszda azemleje" Budapest, 1929, 34 evi 7-8 sz. 305.o.

[Historical and socio-political study of the position of the Hungarian labourer since 1848. A surplus of labour should be noted after 1870 as a consequence of the completion of the regulation of the watercourses and of the railways. Since that time the position of this class of labourer has become more difficult. This study contains also an account of the attempts to improve the state of affairs by means of agrarian reform already discussed during the war. As an appendix will be found the correspondence exchanged on this question between the author and the President of the Council, Count Tisza].

MERTH and DOLLFUSS : Die Sozialversicherung in der Landwirtschaft Oesterreichs. Wien 1929. Agrarverlag.

[After a short preliminary statement, the AA. reproduce *in extenso* the law for agricultural workers' insurance passed by the National Council on 18 July 1928. In addition are given the regulations for the carrying of the Law into effect, the Orders and Decrees, the model rules for the agricultural societies for sick insurances, etc. A clear and well-arranged commentary is available for the interpretation of the various provisions of the Law].

AGRICULTURAL LEGISLATION

The Principles of "State Ownership" and "User based on Personal Labour" in Russian Agrarian Law.

A measure of the Central Executive Committee of the U.S.S.R. of 15 December 1928 re-affirms in the most absolute manner the principles which have governed the Soviet agriculture and land system since the promulgation of the Agrarian Code of the Russian Socialist Federal Soviet Republic in 1922, which is substantially in force also in the other States belonging to the Union. The purpose of this measure as may be seen from the preamble and from the legislative principles published on 16 December 1928 is evidently to provide and warn against any derogations or false interpretations of the fundamental law ; their effect is also to emphasise the policy of comprehensiveness and uniformity to be followed in all the agrarian life of the U.S.S.R.

A fresh examination of the fundamental principles of Soviet agrarian law will therefore not be without its interest or importance.

Art. 1 of the above-mentioned principles reads as follows : — " The basis of the agrarian system of the U. S. S. R. which makes possible the realization of socialism in agriculture and of that agrarian organization which favours the interests of the predominant mass of the peasant class namely poor peasants and those possessing only average means, is *land nationalization* and the exclusive ownership of land by the State of the U. S. S. R. All transactions violating this principle of nationalization (for example sales, mortgages, free grants, bequests, voluntary illegal conveyance, etc.) are void of effect ; those entering such transactions are liable to penal sanctions involving the loss, as a result of the sentence of the court, of the right to user based on personal labour ".

Thus the principle of land nationalization remains unimpaired in Bolshevik legislative practice and the postulate " Private ownership in land is abolished for ever " proclaimed at the very beginning of the Revolution and re-affirmed in the Agrarian Code of 1922 does not admit derogations or temporary exceptions. State ownership according to Soviet doctrine, is an aspect of the new Socialist legal system and all the possible relations of agrarian economy should be interpreted and regulated in this sense.

But what are the specific characteristics and content of this State ownership and what is the juridical position of other holders of rights over land ?

According to legal doctrine the right of ownership possessed by the Soviet State does not, as regards its content, coincide either with the conception of a *dominium eminens* on the lands situated within its frontiers or with the bourgeois idea of nationalization, namely to liberate land from the bonds of private property, nor again with the doctrine of socialization aiming at its equal distribution among individual workers' holdings. One of the characteristic and distinctive features of the Soviet State ownership is " administration " (= *zavedyvanie*) or power possessed by

the State to adopt any and all measures which facilitate the growth of socialism. According to juridical opinion State ownership represents a reserve power to adopt all those provisions which practical experience may prove to be most advisable for the attainment of certain specific ends ; as against this reserve power the rights of the individual, as such, must occupy only a secondary place.

It may be doubted whether State ownership, so understood, is a true and proper ownership. The placing of the element of administration (or, if the word is preferred, that of *direction*, which equally well conveys the meaning of "*Zaviedyvanie*") would seem to have taken away from ownership, when used to represent the totality of all the faculties conferred upon owners, that character of exclusive right over a thing which constitutes the essence of every conceivable dominium. Bolshevik doctrine is conscious of this defect ; according to the Law of 19 February 1919 (Law on socialist organization) all the land was considered as a single State property over which the State possessed full rights of administration and disposal ; under the new economic policy (NEP) the State reserved to itself merely the right of administration, leaving the rights of *disposal* to others. But disposal in what sense ? Certainly not in that used in art. 58 of the Civil Code by which disposal means the right of the owner to alienate the subject of the ownership seeing that private transactions such as purchase and sale, free grant, etc. are absolutely prohibited. By disposal in this case is meant *economic* disposal, that is the right to enjoy and cultivate the land for one's own use, without any obligation to pay any due or other payment to the State.

It may be said therefore that a new real right over land has been created namely "Right to immediate user of the land" (*právo neposrédstvennogo polzovaniia zemliou*) " possessed without any limitation of time by those persons to whom the *economic* disposal of the land is recognized by the State as belonging. Those lands which the State possesses directly, over which it has also the right of economic disposal (State patrimonial property) may of course be also rented out by it according to the system of concessions. Among these lands are the *sovkhozy*.

While the right of private persons to ownership of the land is thus ruled out farmers may have a right to user in perpetuity in return for their personal labour (art. 9 of the Agrarian Code of the U. S. F. S. R. and art. 7 of the Decree of 16 December 1928). Only those cultivating the land by their own personal labour possess this right ; those employing others to cultivate it are excluded and the right to the land persists or is forfeited as this user based on labour continues or ceases.

It is now proposed to examine the interpretation of Soviet doctrine on this point and the powers possessed by owners of these rights in relation to the fundamental principle of State ownership.

The relations between "State ownership" and "right to immediate user based on personal labour" appear above all in agrarian law under the form of a series of social-economic conditions with which the farmer must comply in order not to forfeit his right. These in contrast with the rule in other countries, are not limitations of the right but rank as conditions precedent and constitutive elements of the right itself. All the powers and autonomy possessed by the farmer in his farm arise from the purpose which the State has placed before it, namely proper exploitation of the land "in conformity with the objects proposed". This explains the exclusion of this *right to user* from the private transactions mentioned in art. 27 of the Agrarian Code of the R. F. S. F. R. (reproduced in art. 1 of the Decree of 16 December 1928). This prohibition is a consequence of the personal character of the user based on personal labour while the list mentioned in art. 27 (purchase

and sale, promise to sell, *donatio inter vivos* and *mortis causa*, mortgage) is meant as an illustration rather than as an exhaustive description.

Within these limitations the farmer possesses the following rights in his farm :—

1) A right to user of the land, gratuitous and unlimited in point of time, in return for personal labour ;

2) full liberty of choice in the system of cultivation (individual, by *obscina*, by *kommuna*), but, naturally, as long as the *dvor* (rural family) remains a member of an agrarian association (*zemel'noje obščestvo*) and observes the rules in force (art. 24, 10, 13, Agrarian Code of the R. F. S. F. R.) ;

3) the farmer has a right only to the surface, the land underneath belonging to the State. An exception is made in the case of minerals found on a widespread scale ;

4) the farmer has no right over the expanse of air above his holding except within the limits indispensable to the conduct of his farm ;

5) the farmer has the right to appeal to the courts in defense of a *de facto* user based on personal labour ; that is, the cultivator is entitled to a possessory action, possession being identified in Russian agrarian law with user based on personal labour (art. 26 of the Agrarian Code).

The peculiarity of the action that may be so brought consists in the fact that the agrarian court does not enter into an examination of the rights of the opposing parties nor does it take into consideration any proofs of such alleged rights but considers only the arbitrary violation of the *de facto* user of the land and protects that user as such (Commentary of the O. K. V. K., 5 July 1927). The question of the alleged rights may be raised and decided at a later stage. In this way the defence of the *de facto* user appears in substance as a civil action based on an arbitrary exercise of rights (*samouprávtstvo*) in respect of which a penal action also may be brought ;

6) the right to construct, erect and use buildings and premises for economic and social needs and for purposes of habitation.

This right possessed by the farmers constitutes an absolute departure from the rules laid down by the Civil Code (art. 71) whereby contracts for the construction of urban houses must be drawn up in special notarial deeds.

7) All buildings and premises put to agricultural uses, seeds, plants and in general everything connected with the holding in the use of the farmer belongs to him (art. 25 of the Agrarian Code) ; in other words the farmer has possession only according to the right of ownership as laid down in art. 58 of the Civil Code : " The owner has within the limits laid down by the law the right to possess, enjoy and dispose of the chattels ".

A sharp distinction is hence drawn between the plot of land and all the above named chattels. Hence, while the land is excluded from transactions governed by private law and while the right to user of the land based upon personal labour is a personal, inalienable right which cannot pass to another person as the result of a private juridical transaction but only as the result of legal measures on the assignment of land, all other property attached to the land may form the object of private transactions such as purchase and sale, pledge etc. inasmuch as they are subjects of rights of ownership. It is impossible here to go at length into all the aspects and the conditions of the transactions regarding these patrimonial goods, although the subject is one of very great interest to the student of comparative law. As a result of the close connection between the two categories of *res*, that is the farming land and the patrimonial goods mentioned in art. 25, there arises frequently a conflict which is resolved by a compromise between the absolute principle of inalienability of the land and that of the alienability of other property. Thus to cite one

example, only, cases have arisen with reference to plantations and buildings destined for works of irrigation and reclamation. It is impossible to remove these from the land without making a substantial change in the economic use made of the plot; hence there is required for their alienation also the transfer of the plot; but since the alienation of land is not allowed, a special article has been drawn up (art. 27 of the Agrarian Code) which prohibits this alienation and which covers gardens, vines and buildings inseparable from the soil. These forms of property hence *run with the land*, and their owner can only receive their equivalent in the event of the extinction of his right of user from the person succeeding to the land and under the form of compensation for the expense of capital and labour on property not enjoyed by him.

8) The rights of the farmers are, in addition, subjected to two limitations: (a) in the interests of the neighbours (regulation of servitudes) and (b) in the interests of society (servitudes and expropriation for purposes of public utility).

* * *

It is easy to deduce from the above the principal rules which regulate Russian agrarian life: on the one hand we have *State ownership* which does not admit either of derogations or attenuations; on the other we have *user based on personal labour* which is an intransmissible and inalienable right.

Two important derogations from the personal character of the above user are made by the Agrarian Code and are confirmed by the Decree of 16 December 1928. These make possible:—

- (1) the leasing of the land to actual cultivators, and
- (2) the employment of wage servants.

As regards the first, Soviet doctrine is unanimous in recognizing it as in flagrant contradiction with the fundamental principles which exclude any transfer based on a contract. Thus Rozenblium affirms: "This would in fact be tantamount to admitting that it is possible for the cultivator to receive from the earth a profit not earned by labour (namely a rent) whereas the land had been granted to him on condition that it would be cultivated by his personal labour". The disfavour with which this institution, which is sanctioned by the Agrarian Code, is regarded by the higher legislative authorities is proved by a statement of the O. K. V. K. dated 30 October 1925: "As a general rule the leasing of land of which user based on personal labour has been granted is prohibited".

It would however be a mistake to conclude that leases of this kind are without their own distinctive characteristics. One peculiar feature is evident from the attribute "based on labour" which lays down the purposes for which such leases may be granted. A second characteristic is derived from the "exceptional circumstances" (namely *force majeure*) necessary for their creation. Thus, according to art. 28 "In the case of lands granted on condition of personal labour and temporarily prejudiced as the result of natural calamities (bad harvest, fire, disease of livestock etc.) or of lack of live and dead stock etc., or of diminution of the former as result of death etc., the transfer of the lands or of part of the lands leased out in exchange for payment in money or in natural products or for other means of compensation is authorized..."

Leases can **only** be created for certain determined periods and the administrative authorities have ample discretion for granting extensions.

It is easy to see how vast can be the sphere of application of these bases and how readily the condition of "temporary prejudice" referred to in the Code may

be weakened by the continuous extensions which may be granted. No precise rule is laid down as to the amount of the rent, except that it may be paid in money or in natural products. There is nothing against the application on this point of the rules governing métayer tenancies, settlements etc.

The second important derogation from the above mentioned fundamental principles consists in the tolerance by the Agrarian Code of the R. S. F. S. R. (articles 30-31) and by the Decree of 16 December 1928 on paid labour in agriculture. Practical exigences have made necessary the publication of legislative measures which must be considered as a standing reproach by every true Communist.

Paid labour may however only be employed as a supplementary help: thus according to art. 39 of the Agrarian Code "in those cases when the agricultural work cannot be carried out on a holding in good time owing to the inadequacy of its labour resources the hiring of paid workers may be allowed" ... on the absolute condition that all the able-bodied members of the farm work on the same basis as the labourers (art. 40). Art. 41 adds that "all the rules laid down in the Labour Code must be observed". On 18 April 1925 there were however issued "provisional rules" which regulate in a special manner the work of agricultural labourers in partial derogation from the provisions of the Labour Code.

The absolute conditions under which the employment of paid workers is allowed are hence:

(i) the urgency of the work which cannot be completed at the proper time by means of the labour resources of the farm alone; and

(ii) that the members of the farm work on the same basis as the wage earners.

By means of these limitations an attempt is made to counteract the development of large farms on a capitalistic basis and of the growth of the *Kulàcestvo* class, while every encouragement is given to the average farmer. An example of this is furnished by the Decree of 16 December 1928, which lays down (art. 45 subsection 3) that labourers working on the farms of *kulaki* are protected not by the "provisional rules" but by the "Labour Code".

In a further article it is hoped to deal with the persons subject to the law on the user of land based on personal labour (*dvor, zemélnoje, óbscestvo, sovkhózy*) which are considered in the most recent legislation.

G. P.

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[Special funds are appropriated by the Ministry of National Economy to the provincial Commissions for Wheat Propaganda in Southern continental Italy, Latium and the Provinces of Grosseto and Leghorn. These funds are to be used for awarding premiums for the scientific preparation of agricultural land by means of new machines and implements. Provision is made with this object for an increase of 1 million 400,000 liras in the budget. The law also provides for a grant of 450,000 liras for premiums payable in respect of ordinary mechanical tillage and mechanical sowing].

** Regio decreto n. 329 portante la istituzione di un comitato per la propaganda agraria e i corsi professionali ai contadini. — 7 marzo 1929. — *Gazzetta Ufficiale*, n. 70 (25 marzo 1929).

[The above mentioned Committee is constituted for the purpose of studying and proposing initiatives for the better working of the travelling schools of agriculture and in general the development of technical propaganda amongst agriculturists. It will also take the necessary steps to improve their organization and their methods].

** Regio decreto n. 1015 portante autorizzazione al Ministero dell'economia nazionale a concedere sussidi ai consigli provinciali dell'economia per fini agricoli. — 30 maggio 1929. — *Gazzetta Ufficiale*, n. 149 (27 giugno 1929).

[The Ministry of National Economy is authorized to grant the Provincial Councils of Economy subsidies for the acquisition of borers. These borers must be used for searching for water and for digging artesian wells. They will be lent out through the intermediary of the travelling Schools of Agriculture to farmers and groups of farmers who have formed associations for this purpose. These subsidies may not be less than one third the actual costs resulting from the contract of purchase and may in special cases amount to the maximum of one half these costs].

** Legge n. 1100 sulle trasformazioni fondiari di pubblico interesse. — 17 giugno 1929. — *Gazzetta Ufficiale*, n. 159 (10 luglio 1929).

[This Law authorizes the Government until 31 December 1929 to decide by Royal Decree on the proposal of the Minister of Public Works and the Minister of Labour which lands are capable of transformation in the public interest].

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[This law lays down that a subsidy may be granted by the Ministry of National Economy in respect of loans for improvement works in the Possessions in the Aegean Islands. This subsidy must be used for the payment of interests but not to a proportion exceeding 2.5 % per annum. It may be granted for a total maximum of borrowed capital fixed at 10 million lire].

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AGRICULTURAL ECONOMICS AND SOCIOLOGY

MARKETING OF AGRICULTURAL PRODUCE

The World's Wool Markets (I).

In the economic structure of the wool textile industry merchants have to some extent bridged the gap between the seasonal nature of the production of the clip and the more or less continuous demand of the consumer ; while wool producers on the small scale have recently shown a tendency to meet the large buyer on more level terms by combining in some sort of organisation for selling purposes. Such an organisation may be of the producers' co-operative type or may simply mean the utilisation of a selling broker who works on a commission basis. In this way the sellers reduce the number of their bargaining units and are benefited by the more or less expert knowledge of their agent in the preparation, grading and selling of the wool. If a system of advance payment is in force in a co-operative body the seller will obtain financial strength to enable him to hold his clip for a favourable market and will be on terms of still greater equality with the buyer. There is a strong theoretical case for any organisation which leads to a balance of bargaining power as between buyer and seller but the result of the practical working of co-operative organisations has left doubts in some quarters as to the benefits which they actually do confer on their members. It is not possible, however, to conclude from some failures that co-operative organisations do not enhance the bargaining power of their members ; because such a system can only be tested over a considerable time and its development is comparatively recent.

METHODS OF MARKETING. — The modern wool grower can market his clip in various ways. He can sell it to the agent of a manufacturer or merchant who visits his farm ; he can sell it direct to a local dealer or to a manufacturer ; he can send it to public auction sales ; he can sell it through a commission agent or he can market his wool through a co-operative society.

Sale under the first method is common in the East and in undeveloped countries where sheep are kept by peasants in small flocks. The merchants visit the farm, usually buying the wool on the sheep's back and making some payment in advance. In such countries this method of sale is alone practicable ; but in countries where auction sales are available, as they are in Australia and Great Britain, for example, the farmer may often have cause to regret having sold his wool on the

(1) The above article by Mr. Arnold Frohisher, Secretary of the British Research Association for the Woollen and Worsted Industries, has been received for publication by the courtesy of the Department of Agriculture for Scotland.

sheep when he realises that it might have fetched, properly graded, a considerably higher price at auction.

Formerly it was usual in many places to sell to a local storekeeper in part payment of his bill. This method of sale was unsatisfactory because the storekeeper's ignorance of the value of the wool led to false packing and slackness on the part of the farmer who would not attempt to improve the quality of his wool when all grades seemed to fetch the same price. South African wool suffered for many years from a reputation for poor quality and false packing, earned under this system of sale to the local dealer.

Public auction sales vary in size and importance from the Wool Exchange in London, which is the most important wool sale in the world, to the small country fairs where a few farmers dispose of their clips to a dealer's agent. In all public sales the wool is divided into lots and offered on some definite date at a centre where buyers may gather from different parts of the world. It may be said that in general wool, before it is offered for auction, requires more preparation than it needs for private sale. Even for country fairs, some degree of classification is necessary, while for big sales the preparation is carried much further. At the larger wool sales, such as those which take place in London, Sydney, Geelong, Auckland, Port Elizabeth, Buenos Aires and various places on the Continent of Europe such as Antwerp and Bremen, the sellers are brought into contact with dealers who store the wool and submit samples to buyers. The reputation of the selling broker protects the buyer against fraudulent sampling while his bargaining skill gives the grower a guarantee against the "lottery" of the market. In most cases the farmer puts a minimum price on his wool, knowing that if this price is not reached in the bidding, the wool can be withdrawn and sold privately at the best price he can then obtain. If he markets his wool through a large central sale the farmer has, of course, to pay brokerage charges, which are not as a rule more than $2\frac{1}{2}\%$, in addition to charges for freight, insurance, storage, grading and for loans and interest if the farmer has had to raise money on his goods pending the sale. In spite of these charges the farmer benefits by selling in a large centre because each part of his clip sells for its separate value, and his good wool is not sold with the poorer lots at a lower price. In the experience of English and Australian merchants, wool to be sold to advantage, or even at all, in a large market must be properly graded, though a different system is employed in South America where all wool is marketed together unclassified and where all buyers are local merchants buying for export on a commission basis. These men become very highly skilled in determining the scoured value of the fleece when it is offered unscoured with locks and skirtings, and bargaining ability has been brought to its highest development in these markets.

London remains the most important wool market in the world and provides the barometer for wool prices, although its supremacy is threatened by the Australian sales, which, attracting buyers from all parts, are organized by the National Council of Wool Selling Brokers who arrange the date and place of a series of sales together with the quantities to be offered at each sale. Thus they regulate the amount of wool coming on to the market and spread the selling season over nine or ten months of the year.

It is particularly noteworthy that the London Wool Exchange has none of the features of the highly developed produce market, such as, for example, the wheat and cotton exchanges. It is not possible, however careful the grading, to classify the product as precisely as wheat and cotton can be classified; although the determination of the yield from unscoured wool calls for the exercise of great skill by the buyer. The New York Wool Exchange did attempt some time ago to develop

a futures market, only to fail through fear of speculation. A suggestion made recently in Australia for opening futures dealings on the Sydney market in an attempt to make the times of supply and demand coincide more closely has also been rejected by market dealers.

Accurate information as to the extent of co-operative activities in the marketing of wool is extremely difficult to obtain owing to the multiplicity of small and highly localised organisations. Consequently, this report relies very largely for data upon information afforded by the Trade Departments of the various governments and upon details furnished by some of the largest co-operative organisations which exist for the purpose of marketing wool. The Trade Departments have been extremely courteous in furnishing information on the extent of the marketing of wool in their several countries, but it was only possible for them to make a general statement as to some of the large organisations. It must not be forgotten that, even in cases where no societies for wool marketing have been formed, there may still be co-operative marketing in the sense that several farmers may pool their small clips for sale and share costs of packing and brokerage. In the United States the formation of a company for the marketing of single clip is not uncommon, but there is no reliable information available here as to the scope of such societies. Wool is marketed through co-operative associations formed for the sale of agricultural products such as wheat or dairy produce, the society in this case usually acting as a commission agent for some buyer and carrying out only the packing of the collected wool. Several large wool growers' co-operative associations in England, France and the United States, as well as in South Africa and in Canada, have submitted details of their procedure and copies of the rules of their organisations. These may fairly be taken as types of those large co-operative societies which are of such a size as to maintain commodious warehouses, issue advice to members as to the improvement of their wool, and to control the amount of wool sent to them for sale. In many cases smaller associations exist side by side with the bigger ones and even consign to the larger society for sale the wool that they have collected.

It is interesting to compare the methods of marketing in Australia and Canada, both new countries, yet with different selling methods. Australia has a highly organized system of marketing through brokers in central markets, and the growers seem on the whole satisfied that this method adequately protects their interests; while in Canada the success which is coming to the industry may be to a great extent ascribed to the efforts of co-operative societies in securing a better clip, better prepared, and marketed under the auspices of the associations. Both methods of marketing are highly successful; this seems to show that the actual marketing methods do not matter so long as the wool, if of good quality, is carefully prepared and graded.

Great Britain and Northern Ireland (1927 production 117,676,000 lbs.). — If some arrangement can be made for advances to the growers a society possesses greater power to hold than does the individual farmer, yet in spite of this co-operative marketing has made little headway in England until recent years, and the ratio of the amount of wool marketed co-operatively to the total clip is still very small. This may be due to the fact that, in England, wool is regarded, for the most part, as a by-product of mutton; flocks are generally small, and the individual farmer is glad to be saved the trouble of marketing his wool by selling it to the nearest agent, although the price he receives may be lower than the real value of the wool. It is a matter for the judgement of the farmer whether this method of selling is more advantageous than any other and in circumstances which are not favourable to himself he can always send his wool to a sale. There is at present no proper organ-

isation of country auction sales and there are undoubtedly too many in some districts and not enough in others. It has been suggested that the National Farmers' Union should initiate a plan for amalgamation of the superfluous country auctions. Large central sales are held in London, Liverpool, Bradford and in centres in the West and in Scotland. As a rule only owners of large flocks send their clips to the central markets unless the small owners are united in some co-operative society. Unfortunately the English farmer dislikes to be tied to any form of selling contract. This handicaps the co-operative societies in a way that those in other countries do not experience. Members are under no contractual obligation to the society, and are easily tempted away by a small monetary inducement, thus leaving the co-operative society to market the lower grades of wool. There is also a prejudice among English farmers which makes them believe that the value of their wool will be lowered at the sheds of the society by mixing with inferior qualities. It remains for successful co-operative associations to remove these prejudices.

In the year 1926 the Ministry of Agriculture and Fisheries published a Report (1) on Wool Marketing in England and Wales, which included a survey of all the methods of co-operative marketing then active therein. The following is a brief summary of the conclusions reached in that report.

The Report stated that there were definite advantages attached to the marketing of wool co-operatively. First, a union of the sellers gives them the advantage of fewness over the buyers. Secondly, an organisation is financially stronger than individuals and can afford to hold stocks until the experts that can be employed judge that prices are favourable; although this consideration only applies when the association is in a position to make monetary advances to its members. Thirdly, wool is a commodity that depends greatly for its selling value upon proper classification. If a society can retain the services of an expert grader it confers a great benefit on its members and on buyers alike.

Four types of co-operative organisation for wool selling were in existence. The first is the group of farmers, not registered as a society, who employ the same broker to sell for them at a central market. Such a group cannot gain any advantage from selling their clips together except some slight reduction in the selling charge, for classification must be done on the individual farms and is necessarily crude. The second type is the established farmers' co-operative society, usually engaged in the sale of agricultural requisites, which acts as agent for the sale of the wool produced by its members; but there is no attempt to classify the clip. In a more elaborate form this method of sale includes the introduction of a buyer to the farm by an official of the Society. The third type is the agricultural society which maintains a separate wool department. There was only one example of this type then in existence. This Society, at a cost of $7\frac{1}{8}$ d. per pound, sold about 5,000 fleeces a year. It even occasionally bought small quantities of wool. The wool is collected and graded by the company and left stored in bins for the inspection of buyers. The growers pool the cost of carriage among themselves. The company did not employ a broker in its sales, but its committee followed the movements of prices in the central markets. Growers were paid within fourteen days of the sale. The extent to which these methods of co-operative marketing are employed varies from year to year, but it has never yet attained to a very important total.

There remains the chief form of co-operative marketing, the society which exists only for the purpose of selling wool. Such a society is an association of wool

(1) Economic Series No. 7, obtainable from H. M. Stationery Office or through any bookseller, price 6d, net, post free $7\frac{1}{8}$ d.

growers for the purpose of marketing their clips co-operatively and so obtaining the advantages of expert grading, co-operative storing and sale in bulk in a central market. Four associations of this type are now operating in England, two of which were described in the Ministry's Report as follows :—

" The Kent Wool Growers Ltd. was formed in 1920 by a small group of prominent Kent sheep breeders and in its first year handled 25,000 fleeces. To enable the Society to make advance payments to growers certain members of the Committee guaranteed as much as £30,000 between them. Notwithstanding early disappointments the Society continued to extend its operations and to reduce its costs — and has now established its position. The wool is collected at Ashford, where accommodation for 150,000 fleeces is available in a number of converted army huts. The plant is simple and consists mainly of a number of fixed wooden bins for storing wool, scales for weighing and a wool press. Apart from the manager, who is the only full-time employee, and the grader, the staff employed is unskilled and numbers from ten to twelve during the receiving season from June to September. The wool is roughly classified before leaving the farm, simple instructions being issued to growers early in the season. A high standard of preparation and packing is maintained. The Society pays railway carriage and any other charges incurred after the wool is put on rail. Members within ten miles of the collecting centre, who deliver their wool by road, bear the expense of delivery. Carriage on wool sold is paid by the buyer.

" Wool begins to arrive at the Society's warehouse early in June and each member is given a receipt for his own consignment. When approximately 5,000 fleeces have been received, an expert grader is employed to grade the wool; any grower may, of course, attend when his own clip is being graded. Members' fleeces are never opened unless the grader has reason to believe that the preparation of them is below the required standard. After grading, the wool is repacked and pressed into bales which bear the Society's brand and label. A 5 % sample of each grade is sent on to London to be sold at the Coleman Street wool auctions, the remainder being held to buyer's orders. It has been the custom of the Society to pay the grower about two-thirds of the estimated market value of the wool whilst it is in store awaiting sale; the proportion advanced is determined by the Management Committee who are guided by the current market price and prospects of the season."

The Kent Wool Growers send out their own packing and packing sheets but do not undertake the collection of the wool. In the year 1927 they advanced to their members 9d., per pound of wool and in 1928, 1/- per pound. The membership is now 861, and the number of fleeces handled in 1927 was 164,000. It was estimated that 45 % of this wool was exported.

The Southern Wool Growers Ltd. works over a larger area than the Kent Wool Growers Ltd. and deals with a greater variety of fleeces. The members' wool is classed and sold on sample at the London auction sales. This society owns a large warehouse at Chichester, which is specially designed to facilitate classing. It possesses a covered platform for unloading and loading wool moved by rail, and other platforms for handling wool moved by road. The depot is near the main railway line and has special sidings and a travelling crane. The building is well equipped with bins, scales and presses. Packing sheets are sent out by the company in which the growers pack their clips, dividing them into ewes, locks and sweepings, lamb's wool, and so on. From these the grader produces bales of wool of the same grade and quality. The fleeces dealt with by this Society are varied and need the use of a large number of classes. Its records show that fleeces from the following breeds have been handled :— Leicester, Border Leicester, Lincoln, Kent, Cotswold, Devon Longwool; Southdown, Shropshire, Suffolk, Hampshire Down, Oxford Down, Dorset

Down ; Dorset Horn, Ryeland, Kerry Hill, Clun Forest, Wiltshire ; Scotch Blackface, Cheviot, Welsh, Radnor, Exmoor Horn, Dartmoor ; Shetland, Masham, St. Kilda, Spanish Black and various cross-breeds. Immediately upon the receipt of the wool an advance is made to the grower of 75 % of the estimated value of each breed, the estimate being based on the current prices ruling on the London Wool Exchange. The Society deals with about 150,000 fleeces annually. It has been estimated that, in 1927, between 40 % and 50 % of this wool went overseas to Japan, the United States, Germany, Belgium and France”.

The Eastern Wool Growers Ltd. — a more recent organisation with headquarters in Ipswich — has at present 172 members scattered through the Eastern Counties. The Society has been in existence for only three years and is already handling 43,000 fleeces annually. The wool is collected, graded and stored, an advance being made to members on receipt of their wool by a decision of the Committee advised by the Society's brokers. The final destination of the wool is not known to the Society which sells on the London Wool Exchange, where purchase is generally made by a dealer.

The Midland Wool Growers Ltd. was not formed until the Spring of 1928, but has already more than 200 members. It is supported by the County Executives of the Farmers' Union, which are represented on the Board of Management. The counties included are Oxfordshire, Northamptonshire, Warwickshire, Buckinghamshire, Berkshire, Gloucestershire, and Leicestershire. The Society includes among its functions the collection, grading and sale of wool in bulk for the benefit of its members ; and the sale is carried out by sample on the London Wool Exchange in the autumn months. As soon as the wool is graded, an advance of 75 % of the estimated value of the wool is made to the grower.

A scheme for co-operative marketing of wool grown in the West Riding was put forward at a recent meeting of the West Riding Farmers' Union Executive, the idea being to collect the wool in some central spot, grade it in bulk, and hold it until the market in Bradford is favourable. This seems to show that there is an increase in confidence among farmers in the advantages of marketing co-operatively which may lead to a considerable spread of such methods in the future.

Scotland. — The Scottish Wool Growers Ltd., though only formed in 1926, has expanded satisfactorily and acts for growers in all parts of Scotland, handling wool at a very favourable cost per pound. Producers are well satisfied with the services and prices they receive and, on the other hand, buyers in the home and foreign markets have expressed their satisfaction. The turnover in 1927-28 was £94,000, and it is reported that this was exceeded in 1928-29 by more than 50 per cent. The Society now handles about 11 per cent. of the total Scottish wool clip.

British Dominions and India. — The British Empire produces about 43 % of the total quantity of the world's wool, and of the wool grown in the Empire Australia produces 60 %.

Australia (1927 production 854,974,000 lbs.). — The bulk of the wool grown in Australia, that is about 70 % of the total clip, is merino, the remaining 30 % being fine and medium crossbred wool. Great care is given to the breeding of fine wool, and to grading and preparing the wool for market. In the early days of Australian sheep-growing the farmer graded his own clip on the large farms that were then general ; recently the greater subdivision of land has made it more usual for a grower to send his clip to a grader for classification. In Queensland the government encourages the production of wool by small farmers by receiving wool in small consignments, grading, baling, and pooling it for market. Australian wool is produced almost entirely for export ; the growing demand of the home mills does not yet

absorb more than 5 % of the total output. Buyers from all over the world, particularly from the United Kingdom, France, Germany, Japan, and, in the last two years, Russia, attend the sales in Sydney, Albury, Geelong, Brisbane, Adelaide, Perth and Launceston. A certain quantity of wool, however, finds its way direct to the London market.

Practically the whole of the wool marketed in Australia is sold by auction. The method mostly adopted is as follows:— At all small township agencies or sub-agencies are held for leading wool-broking firms. Efforts are made to induce the farmer to forward his wool for sale to auctions held regularly at country centres or seaports where foreign and local buyers attend. There is no fixed percentage for advances made on clips. If the farmer has a good reputation and his clip is in good condition advances are made almost up to the full valuation if need be. In other cases advances of 50 % or 60 % are made. The central auction sales are controlled as to date and amount of wool offered by the National Council of Wool Selling Brokers, acting in co-operation with the Australian Wool Growers' Council. These two bodies draw up a programme of sale for each centre before the season opens, estimating the quantity of wool that is likely to be available and allotting so many bales to each place. The wool is sold strictly in order of its arrival at the centre, a system which causes certain slight maladjustments between the supply and demand for particular types of wool, as the buyer seeking a special line has to wait until this type of wool is offered in its turn. The sale programme arranges that no two sales shall take place on the same day, and also that the quantity of wool offered shall be spread over a period of eight or ten months with the object of maintaining the price of wool at a more constant level.

It should be noted that the Australian Wool Growers' Council is not a co-operative organisation, but simply an association of the wool growers acting in conjunction with the selling brokers. Co-operative societies proper do exist but they operate on a very small scale compared with that of the large brokerage firms; no data are available to show the actual proportion of the annual clip dealt with by co-operative methods.

Feeling among wool growers in the Commonwealth seems to be turning in favour of close co-operation between producers, and at the recent conference of the Graziers' Association of New South Wales it was suggested that the increase in country selling was due to a lack of co-operation among growers. Some farmers had found that they could get a better price for their wool by selling it privately in the country than by selling in the large centres. On the other hand if producers could act collectively and say that they would not market their clips through the brokers in the large centres but would make their arrangements for sale direct to the foreign buyer, brokerage charges would of necessity be reduced. But no such action on the part of the growers is possible without some closer form of unifying organisation than at present exists. It will be noticed that there is no suggestion of co-operation in the sense of undertaking the actual business of marketing, but only proposal of combination to threaten the broking firms and also to check the internal competition of country selling.

When offerings are regulated, it is possible to keep available supplies approximately near trade requirements, and thus ensure that prices will be more stable. Country selling increases the amount available at certain periods, and tends to injure the demand. The chief disadvantage to the buyer lies in the lack of the selection that is available in one of the central markets.

As an experiment a system of selling by zones has just been put into practice in an attempt to avoid the glut of early-shorn wools and make the fine wools avail-

able to the buyer at an earlier date. The system aims at reduction of the time between the offerings of wool and is in line with the proposal of the Primary Producers' Wool and Produce Selling Co. Ltd. to offer wool at auction within three weeks of its arrival at store so as to relieve the farmer of the necessity of waiting several months for his money.

New Zealand (1927 production 202,386,000 lbs.). — In New Zealand the situation is very similar to that in Australia. Marketing is carried on by means of auction sales in large centres such as Wellington and Auckland. The sales are organized by an association of the wool brokers in such a way that it is possible for buyers to go from one sale to another. The brokers undertake storing of the wool and presentation for market in the most attractive way, and they may even arrange for reclassing and binning to improve the chances of sale. The Government is working to improve the standard of the wool by helping breeding experiments, providing courses in Agricultural Colleges on the care of sheep, and sending out men to advise in the case of disease in a flock, and in arranging for demonstrations in dipping and shearing. Offerings at each selling centre are governed by the New Zealand Wool Committee, acting under government authority, such regulation proving beneficial to the trade. Purchases are made through members of the Wool Buyers' Association, and much of the wool purchased is exported for speculative re-sale and appears again on the London or Continental markets. Home manufacture only absorbs $2\frac{1}{2}\%$ of the clip. There is no evidence of any producers' co-operation.

Union of South Africa (1927 production 251,000,000 lbs. including 11,000,000 lbs. of mohair). — Practically the whole of the wool produced in the Union is exported, the mills in Cape Town retaining only a very small proportion of the total clip. The bulk of the wool is sold locally prior to export, and it is usual for the sales to take place in the port from which the wool is shipped.

The sheep-growing industry in the Union is still in the stage where the bulk of the wool is produced from small flocks, although the size of the average flock is growing. The small native sheep has of late years been replaced by merinos, the Government having given much care to sheep breeding with the object of producing the fine wool now demanded by the wool textile industry. This change in production from crossbred to merino wool has opened up the Continental market to merino wool has opened up the Continental market which absorbs the finer wool and the general improvement in quality has encouraged manufacturers to use South African wools, which, at one time, had a reputation for coarseness, bad packing and grading.

A considerable quantity of South African wool still comes from native flocks and is collected by local storekeepers. This wool is baled practically as it is received, no attempt being made to separate the pieces, bellies and locks from the main part of the fleece. Native wool is usually coarse, and is marketed in an unclassified condition; the bulk is produced in Basutoland, which is an excellent wool-growing country, not in the Union, although utilising Union seaports.

Modern practice in the Union is for the farmer to consign his wool to the coast, after classing and grading it. There it is sold by brokers to buyers representing manufacturing and merchanting firms all over the world. Formerly, all sale was by private treaty, but it is now more usual for the wool to be offered in large auction sales.

Port Elizabeth is the most important market and in 1926 33.5 % of South Africa's wool was exported from this port. About half the quantity handled is sold by public auction; most of the remainder is catalogued and offered but is afterwards withdrawn, for sale "out of hand", it being a rule of the market that wool may not

be sold by private treaty unless it has first been offered for auction. In Durban, which serves Natal, Transvaal and a part of the Orange Free State, marketing is entirely by means of a Central Wool Exchange. The wool, which is fine and free from excessive dust and therefore in good demand, is stored by the broker and catalogued according to description. The same rule as to sale by private treaty is in force in Durban as in Port Elizabeth. If the bidding does not reach the seller's reserve price the highest bidder has an option until the following day of taking over the wool at the reserve price, but if he does not avail himself of the option the wool may be sold by private treaty. In practice there are few withdrawals, most wool being sold by auction. The Central Wool Exchange conducts auction sales under the direction of members representing various wool interests, and farmers are specially invited to attend the sales and to learn for themselves the buyer's requirements.

East London marketing customs are different, sale by private treaty being the usual method of disposal and only a small amount being put up for auction. Brokers in East London allege that the co-operation between them is not strong enough to enable them to meet a falling market by judicious feeding as do the Australian brokers. This being the case they think it better to sell privately.

It is considered in the Union that a combination of the two methods of sale gives the best results, as, for example, it competition brings out a good bid for any lot at auction it can be accepted forthwith, while if not it can be withdrawn and a better price perhaps obtained by subsequent private negotiation.

Producers' Co-operative Societies are of recent growth in South Africa. Immediately after the War, when wool stocks were large and wool prices high, co-operative associations were formed in quite large numbers in the Orange Free State. Most of these disappeared in the depression which followed in 1921-22, only one, the nucleus of the present National Wool Growers' Association of South Africa, surviving. About the same time, at the beginning of the post-war period, the Farmers' Co-operative Wool and Produce Union, known as the F. C. U., was formed in East London. The F. C. U. successfully weathered the depression and began to grow rapidly under the favourable conditions which followed the passing of the Co-operative Act in 1922. To-day it is handling about 4,500,000 fleeces annually, and has branches in Port Elizabeth, Durban and Cape Town as well as a very large warehouse in East London. Although it only charges $1\frac{1}{2}\%$ for selling, ordinary brokers' charges for sale being at least $2\frac{1}{2}\%$, the F. C. U. declares a substantial annual dividend. Big as this saving is, it represents only one of the advantages to be obtained from selling co-operatively through the F. C. U. The Union aims at the centralisation of wool sales and to that end has erected at Milnerton a large warehouse which it is hoped will supersede the present sales at Swellendam, Heidelberg, Riversdale and probably Mossel Bay. Much has been done to improve the reputation of South African wool in the markets of the world by careful preparation for market in the company's warehouses, advice to farmers on breeding and the care of their flocks, dipping and shearing and exhibitions of South African wool in England and on the Continent. The National Wool Growers' Association of South Africa and the F. C. U. have combined in determined efforts to eliminate false packing which was previously rather common in South African packs. Both aim at the standardisation of classes used in grading and a greater uniformity in the wool produced so that it can be sold under the trade mark of the National Wool Growers' Association of South Africa with a guarantee of quality, a method which would avoid the need for excessive sampling by the buyer. The Government Department of Agriculture is supporting a movement for making the trade mark of the springbok's

head in a circle the mark for all South African wool which has been packed and graded under the rules of the National Wool Growers' Association of South Africa.

There are, apparently, about 91 branches of co-operative associations in the Union of South Africa and these are being urged to affiliate with the National Wool Growers' Association, with the object of securing uniformity in marketing and in preparation of the clip for market. At present, co-operative societies simply collect the wool and store it in their warehouses until sale is undertaken by a broker in Port Elizabeth, Durban or East London. Larger organisations like the F. C. U. also undertake the actual selling for their members in auction sales or by private treaty, as appears best to the salesman.

The National Wool Growers' Association of South Africa, which is now an amalgamation of many small co-operative associations, has stated its objects as follows :—

- (1) To gain the absolute confidence of buyers in marketing centres by producing the right kind of wool and by getting up the clips in the most efficient, honest and attractive manner.

- (2) To secure the disposal of all wool in properly constituted markets and arrange for a sequence of sales.

- (3) To advertise the brand and to hold exhibitions in all countries using South African wool.

- (4) To assist members if required to classify their wool clips and flocks of sheep and to select suitable rams. Every member must pass a severe test in grading before he is allowed to grade his own wool. The wool packs used must be uniform.

- (5) No wool is to be accepted under the name of the Association unless first inspected by a member of the Committee, each bale so passed to be marked with the mark of the Association and with the name of the owner and of his farm.

- (6) Members must agree to the standards of the Association or their wool cannot be undertaken by the Association. All subsidiary societies must register before using the brand.

The Association acts with the Government Department of Agriculture in organising a supply of rams for breeding purposes in order to increase the proportion of fine wool produced in South Africa, in encouraging farmers to take courses at agricultural colleges — one of the eight months' courses on Sheep and Wool is the only course of its kind in the world — and in arranging for local demonstrations and competitions in dipping and shearing. The good results already achieved by co-operative marketing in South Africa are leading to a rapid spread of this method of sale.

Canada (1927 production 18,673,000 lbs.). — Production of Canadian wool is increasing as it is realised that it is possible to produce good wool at the same time as good mutton and lamb. In the past, Canadian sheep breeders devoted their efforts to the production of lamb suitable for export to Europe and were content with wool full of grey hairs. Recently, the Live Stock Branch of the Dominion Department of Agriculture has conducted propaganda advocating improvement in wool quality without reduction in the yield of meat. The fact that Canadian lambs are slaughtered at a very early age naturally affects the nature of the clip, the percentage of lamb's wool being high.

The great improvement which has taken place in both the quantity and quality of the Canadian clip, and the increased amount that is properly prepared for market, is attributed to marketing reforms secured by the Dominion Department of Agriculture and by the Canadian Co-operative Wool Growers Ltd. The latter is

the most important organisation for co-operative marketing of wool in Canada to-day. It handled in 1927 one quarter of the total amount of wool produced in Canada, collecting, preparing and marketing it. After the wool is collected in local centres it is packed and sent to the chief centre of the district where it is graded by an expert provided by the Dominion Department of Agriculture. Wool is collected for grading in centres in each province, at Weston, Ontario; Lennoxville, Quebec; Regina, Saskatchewan; Fredericton, New Brunswick; Charlottetown, Prince Edward Island; and Antigonish, or Truro in Nova Scotia; and it is afterwards sold by private treaty. The head office of the society is in Toronto, and the membership numbers about 9,000 flockmasters.

As well as its selling organisation, the association has developed a manufacturing branch for woollens and endeavours to persuade the members to accept woollen goods in exchange for raw wool consigned to the company.

Besides the Canadian Co-operative Wool Growers Ltd., smaller co-operative societies exist in every province; all are provided with graders by the Department of Agriculture and all collect wool in local centres and ship it in bulk. Individual contracts for sale are rare.

Government help has also been given to the industry by arrangements for competitions in sheep feeding, giving of bonuses to pure-bred rams, grants of money to sheep shows, and provision of courses in selection, management and so on in agricultural colleges, with the result that Canada is now exporting wool to the United States and to Great Britain. The home wool textile industry is not yet fully supplied by home production of wool, and Canada still imports annually about 14,000,000 lbs. of wool, yet in cases when the prices ruling in other countries are higher than Canadian prices the better types of Canadian wool have been exported.

India (1927 production 55,000,000 lbs.). — Indian wool falls for the most part into the class of carpet wool and exports are destined for the manufacture of blankets, rugs and carpets, very little of the wool being fine enough to use for clothing purposes. Climatic conditions have developed a sheep with a light fleece of short-stapled wool so that the yield of wool per sheep is small. The wool trade centres chiefly in the Punjab, particularly the Hissar district; the United Provinces, particularly Garhwal, Almora and Naini Tal; Sind, Baluchistan, and the Bikaner State; in other parts of the country the sheep yield only hair with no felting qualities. The largest markets are at Fazilka and Beawar; at the former the wool is subjected to a certain amount of cleaning, and, if intended for shipment, is pressed and baled. A good deal of the wool that comes on the Indian market is "dead wool", that is, wool removed from the carcases of slaughtered sheep.

Sheep rearing and wool production are entirely in the hands of village herdsmen who depend on middlemen for the marketing of their clips. These middlemen, as is usual in Indian trade, make monetary advances to the shepherds about six months before the actual shearing season, up to as much as 50 % of the total price to be paid. The middlemen, after the shearing of the wool, consign to one of the principal Indian markets for sale, though some of the bigger merchants may forward the wool straight to London or Liverpool for sale on a consignment basis. The arrangements are made through exporting agencies in Karachi and Bombay, each individual parcel being auctioned on its merits. Generally the exporting firms undertake freight and insurance and often pay a percentage advance in rupees on the estimated price of the wool. No sale by private treaty is permitted unless the wool fails to find a buyer at auction and in the final settlement the shipper claims a commission of 2 % in Bombay and 3 % in Karachi, of which 1 % is in each case paid to the broker who arranged the advances.

The raw wool is generally picked and cleaned up country, but a certain amount is pressed and baled in the marketing centre or in one of the ports.

Irish Free State (1927 production 12,845,000 lbs.). — In spite of the efforts of the Free State Department of Agriculture to foster an Irish wool trade with a view to manufacture in the Saorstat mills, methods of marketing wool remain haphazard. It is not uncommon for a farmer to sell to the local shopkeeper in payment of a bill. As the shopkeeper is usually ignorant of differences in wool qualities, he pays a flat rate for all classes of wool, thus destroying any incentive to improve the fleece. Sales are frequently made in country fairs, but sale by auction is not much employed. The Department of Agriculture is trying to persuade farmers to improve the quality of their wool clips, and is encouraging co-operative societies with a view to this end, but with what degree of success remains to be seen.

(To be continued).

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Organisation of a Uniform Egg Marketing System in Germany.

In the article on the world trade in eggs in No. 5. of this Review it was pointed out that in all the egg importing countries there were signs of considerable efforts to increase egg production. The importing country standing second in point of quantity of imports, was Germany, which in 1927 accounted for 36 per cent. of excess of imports over exports as ascertained for the countries enumerated. In 1927 Germany imported 2.7 milliard eggs and in 1928 approximately three milliards, the value of the egg import rose from 188.2 million marks in 1913 to 275.8 million in 1927 and to 200 million marks in 1928. Eggs, egg preparations and other poultry products were in 1928 imported to the value of nearly 400,000,000 marks. These not inconsiderable sums, appearing on the import trade side, sufficiently explain the efforts which are being made to reduce importation by stimulation of home production.

Out of the funds allocated by the *Reich* for the mitigation of the agricultural crisis a sum was set aside for the further development of poultry keeping, and found application in the support of experiment and demonstration stations for poultry keeping and in advisory-work in connection, in control of poultry diseases, stimulation of breeding for laying capacity and of the rearing of show birds, assistance to co-operative provision of incubators, development of poultry fattening farms. At present the work of establishing a uniform marketing organisation for the whole territory of the *Reich* is being carried through. There will be systematic collection of the egg yield and the eggs will only reach wholesale trade after being standardised.

The initiative in respect of setting up the marketing of organisation has been taken by the German Ministry of Food (*Reichsernährungsministerium*). The whole territory of the *Reich* is divided into 17 producing regions, in each production region an egg marketing centre, is to be established if not already existent. The egg marketing centre groups the local co-operative egg marketing societies, the poultry breeders' unions, the farm women's clubs and institutes, and even also the owners of the larger poultry farms into a common centre for work. The principal function of this centre is the regulation of the market for the economic region concerned. Apart from meeting the local demand the co-operative societies are

expected to place their egg yield at the disposal of this central organisation, and the members of the co-operative societies are equally bound to deliver their whole yield to their co-operative societies. The centres will as a rule consign the total of eggs to the wholesale purchaser (the wholesale trade, consumers' co-operative societies, etc.).

Egg preserving societies are not permitted to deal in imported eggs. The central organisations group themselves into wholesale trade centres, in order to make impossible any competition between the separate producing regions. The number of these wholesale trade centres as also the establishment of district centres will depend on the subsequent development of the scheme. The construction of the whole organisation is to be carefully effected and on purely business lines; there are to be no merely formal arrangements.

The work of the central organisation will also include the by no means unimportant task of regular watching of the market and forwarding of the results of observation and experience to an office which is not yet definitely established.

The *Reich* is guaranteeing financial support so as to ensure the starting of the system. Certain conditions are attached to any assignment of funds from the *Reich* and must be first fulfilled, as follows:

1. Institution of a central organisation for egg marketing for every larger economic region, under business management, in the form of a limited liability company, or a registered company.
2. Announcement of owned capital to a total of at least 10,000 R. M.
3. A minimum turnover of one million eggs yearly.
4. Strict inclusion of all the co-operative egg dealing societies (centres for egg collection) in the same district.
5. Systematic establishment of co-operative methods for the marketing of eggs throughout the economic region.
6. Introduction of the fixed period for consignment in the case of all subordinate co-operative societies and egg collecting centres.
7. Full power to constitute a joint organisation for consignment and for general activities between districts in the vicinity of the central body.
8. Adoption of the right lines for the regulation of the German fresh egg mark ("Deutsches Frischei"), and recognition of inspection for that purpose.
9. Audit of accounts by an audit union (trustee company).

The condition referred to under heading 8 relates to the marking of eggs with the mark, protected by the German Council of Agriculture (*Deutscher Landwirtschaftsrat*), viz. the words "Deutsches Frischei". The right to use this mark is bestowed by the German Council of Agriculture on the Chambers of Agriculture and Farmers' Unions authorised for the purpose. The Chambers are establishing at their respective headquarters Control or Inspection Offices (*Kontrollstellen*), which undertake to supervise the observance of the regulations made by the Council of Agriculture for the employment of this mark, and at the same time investigate any complaints made on the side of the customers. If the Chambers find some special arrangements in force for the use of the mark, these are allowed, subject to approval by the Council of Agriculture. The right to use the mark is assigned to the egg collecting centres after a probationary period of 3 months. The collecting centres have to take precautions against the misuse of the mark and to institute minimum penalties for faulty consignments made by members. The producers must forward eggs at least once a week, and the eggs consigned must have been laid within 7 days from date of consignment. The packing is effected by the collecting stations, in accordance with the prescriptions of the Ministry of Food (*Reichs-*

ernährungsministerium), in standardised packages, each package containing only eggs of one size category. These size categories are: A. over 60 g., B. 55-60 g., C. 50-55 g. The mark includes besides the indication "Deutsches Frischei", the indication of the economic region, and the date of the week. Eggs less than 50 g. but not under 43 g. may receive the mark in September only up to December inclusive. Broken eggs, eggs that show a movement of yolk or white, eggs with defective shells, eggs showing blood clots (blood-eggs) and stained eggs may not be marked. Deposit of marked eggs in cold storage is not permissible.

V. B.

Der Stand des planmässigen Absatzgestaltung auf dem Eiermarkt. *Production und Absatz. Wirtschaftsdienst der "Deutschen Landwirtschaftlichen Presse"*. No. 22. 1929.

Agrarian Reform in Latvia.

In Nos. 7, 8 and 9 of this Review accounts were given of the agrarian constitution of the present day in Lithuania, and Finland, based on reports of the Governments of these countries. A detailed and valuable report on the agrarian reform in a third Baltic State, Latvia, is now given. This also comes from the Ministry of Agriculture of the country and is, as were the earlier reports, drawn up in reply to a questionnaire undertaken by the International Institute of Agriculture on the subject. A few words of preface may be added outlining the natural and economic conditions under which the agrarian reform has been effected in Latvia.

Situated on the North-east of Russia, Latvia consists of the southern part of the former Russian province of Livonia, the former Russian province of Courland, as well as a part of the former Russian Government of Vitebsk, the territory of Lettgau. It is bordered by Esthonia, the U. S. S. R., Lithuania and the Baltic Sea. The distribution of territorial area is as follows (in thousands of hectares): cultivable land 1,677 (25.5 per cent.), meadowland and pasturage 1,666 (25.3 per cent.), woods and forests 1,780 (27.1 per cent.) and other lands 1,456 (22.1 per cent.). While in the past the cereal crop was the main crop, for some time increasing attention has been given to stock breeding and this now supplies nearly half the income in the sphere of agriculture and dairying, the production of which amounts to more than 30 millions of gold francs per year. One-third only of the income comes from the cultivation of the fields.

According to the estimates of 1 January 1928, the population of Latvia was 1,833,189 persons, or a density of 28.6 per square kilometre. According to the census of 1925 nearly two-thirds of the inhabitants of Latvia belonged to the rural population, or 60.99 per cent., while 12.61 per cent. were engaged in industry, 49.1 per cent. of these being engaged in the industry of animal products, 6.13 per cent. in trade, 3.52 per cent. on communications and transports; 2.92 per cent. are intellectual workers; domestic servants are represented by 1.99 per cent.; there are 1.54 per cent. in the administration, 1.24 per cent. in the army and navy, and 9.6 in the other professions.

As regards commercial treaties, Latvia follows a policy on the lines of the more favoured nation principles, but introducing a special clause known as the "Baltic and Russian clause" reserving privileges to the Baltic States (Finland, Esthonia and Lithuania) and to the U. S. S. R.

It may be added that Latvia is the first country of Europe which succeeded in stabilising its exchange after the war, and in attaining gold parity, the date of stabilisation being 12 November 1921.

* * *

I. CAUSES OF THE AGRARIAN REFORM.

Before the agrarian reform, 48 per cent. of the present territory of Latvia forming an area of 6,267,400 hectares, or more than 3 million hectares, consisted of lands belonging to feudal lords; 10 per cent. of the area belonged to the State; 1.5 per cent. to the communes of the towns and one per cent. was the property of the parishes; 39.5 per cent. only, or 2,467,000 hectares, belonged to peasants. Thanks to such a distribution of the lands the number of persons living in the country and without land were reckoned at half a million. For these, since the large estates suffered from shortage of labour, the difficulty was not to earn their living but to obtain holdings which they could cultivate on their own account. A whole series of tendencies set up by economic and social difficulties or by the differences resulting from nationality or history between the inhabitants of the present Latvia, were at work long before the war, and under the influence of the revolutionary happenings occurring in neighbouring countries, they brought about a reform which has completely modified the structure of Latvian agriculture. The causes leading to the agrarian reform must also be sought in the economic difficulties created by the war; the soil had been neglected and no soil improvement had been attempted; live stock and farm buildings had been in part destroyed. Many of the large estates had been deserted by their owners, either on account of the devastation which had come about or because the owners in question had taken part in a movement of enemies against the new State. All the abandoned estates, to the number of 629, as well as 16 estates belonging to parishes passed immediately under the management of the public authorities who thus had 800,000 hectares at their disposal. These large estates were at the time worked by the State, in order to procure food for the population.

The agrarian reform was inevitable also for political reasons. The large majority of persons deprived of lands might very easily have become involved in revolts after a Russian occupation. The people moreover were opposed to the nobles, the majority of whom were of foreign origin and by whom they had been oppressed for centuries.

The great estates were abandoned by their owners during the war. In the form of holdings let on share-tenancy, they were made available for agricultural workers who possessed the necessary implements; after the agrarian reform the workers to whom the farms newly formed had been assigned had the opportunity of farming lands of their own. At the beginning of the agrarian reform, all the feudal estates were farmed by the former labourers or by servants who had formerly been attached to the estates.

II. LEGAL BASES OF THE AGRARIAN REFORM.

1. *Fundamental principles of the Agrarian Legislation.*

The main object of the agrarian reform is to facilitate assignment of the lands to landless workers who will undertake to farm the lands they obtain. In view of this object a State land reserve has been constituted including (a) State lands, (b) lands of private persons and of parishes in which the farming units exceed 50 to 100 hectares. The industrial enterprises, or factories, taken in the narrowest sense, and lands belonging to charitable and scientific institutions, and meeting the

immediate requirements of such institutions are considered inalienable. The lands mentioned under (b) are expropriated and their ownership passes to the State in accordance with the law, beginning from the day when it came into force. Farmlands belonging to towns pass to those who previously cultivated them on the same conditions as the lands incorporated in the land reserve. In exchange the towns receive lands the value and area of which is equal to that of the farmlands transferred. Buildings, forests and waters come under the land reserve, together with lands.

Exemption from alienation is granted to industrial establishments (factories, works, manufacturies) which have not the function of transforming agricultural products of the country or of preparing requisites for the local agriculture. Also the following are inalienable: farming material of an estate belonging to an owner or tenant, whenever the owner or the tenant themselves guarantee the farming of the estate.

All engagements and contracts concluded as regards the farming, the sale and letting of the alienated estates are considered as null and void, apart from exceptions specified in the law.

The expropriation of forests relates to all owners without distinction of nationality, religion and rank.

The lands of the rural fund of the State are to serve for the formation of new farms which may have an area of more than 22 hectares of cultivable lands.

Small farms already in existence and the area of which is less than 15 hectares which is regarded as the normal area, may be enlarged, so far as possible, up to the limit fixed for the newly formed holdings which are all of the type of 22 hectares.

In order to organise horticultural undertakings in accordance with the requirements of the country, a part of the lands are given to the State in fractions of 10 hectares; land may be given in fractions of two hectares at most to persons whose main occupation is not farming (artisans' holding). In addition lands are assigned to economic undertakings, to municipal institutions, or in accordance with social and scientific requirements in the proportion considered essential and in accordance with the purpose for which such lands are worked.

Every Latvian citizen without distinction of nationality or creed not possessing land or possessing less than the 15 hectares, fixed as the standard for the new holdings, and undertaking to farm the land assigned to him, has the right to receive a part of the State land reserve. No consolidated rural property on the lands of a feudal estate may be divided if it is of the nature of a local peasant farm and does not occupy more than 100 hectares. If the area is more than 100 hectares, the surplus is removed.

The lands of the State land reserve, on which are found very dense population grouped into villages, towns or parts of towns, may be left with the tenants to whom they were assigned by the former owners.

With a view to ensuring the agrarian reform, agricultural organisation committees are instituted in the rural communes, towns or villages and districts. The Central Committee has the duty of ascertaining and directing the utilisation, the division and the assignment of lands, taking into account the advice given or the resolutions passed by the committees of the rural communes (towns or villages) and by the district committees.

The communal land organisation committee consists of five members elected on the proportional vote by all the citizens of the communes who have the right of voting. Since all citizens take part in the elections without distinction of nationality or sex, provided they have the right to vote, the persons elect-

ed on to the communal committee may represent all the social classes — the large and small rural landowners, tenants, artisans, the intellectual classes, traders and workmen. The committees of the towns or of the villages consist also of five members elected on the proportional vote by the members of the Municipal Council, and in addition, of the surveyor of the area and a representative of the Ministry of Agriculture.

The District Committees consist: of four members of the District Council elected on the proportional vote and of two substitute members, — the representative of the Ministry of Agriculture, a representative of each of the Ministries of Justice, Finance and Industry, of the district surveyor. The towns of Riga, Jelgava and Liepaja send two representatives to the District Committee.

The Central Committee consists of six representatives of the Government, six members of the Saeima elected by it and of a chairman appointed by the Government represented by the Minister of Agriculture.

In view of the fact that the agrarian reform is being done by stages and by utilising the experience acquired, changes are being made in the nature and the composition of the Land organisation committees, not however of an essential character. In addition, the competence of the communal committee are transferred to the Communal Council and that of the town committees to the Municipal Council.

3. Classes of land subjected to reform.

The law of the agrarian reform refers to the lands and to the large noble properties specially registered, to the lands and estates of the State as well as to lands belonging to the Church and to the municipalities.

The lands were alienated by the method of forced expropriation. All the feudal estates were seized, as well as the lands belonging to the Church and to the communes except for an area of land of 50 to 100 hectares which is left to the former owner of the expropriated lands, the 50 hectares left to the Church, and those communal lands which are essential to the present needs of the towns.

In accordance with the agrarian law the Land Office deals with all the State lands, the forests of the landed estate of the State, the waters and the lands which are non-cultivable. Places of importance from the historic and archaeological point of view, those of special natural beauty, those containing underground wealth cannot be divided but remain as State property under the control of the State. The forests belonging to the rural reserve of lands are worked under the supervision of the forestry department. Fishery rights are granted to private persons and to societies.

Easements or charges on lands incorporated into the rural reserve are abolished. There are also abolished easements on real property on account of the inconvenience in the execution of the agrarian reform; all other charges remain in force.

4. Formation of new holdings and enlargement of already existing holdings.

According to the law of the agrarian reform the division of the State lands should be made in the first place in favour of the small holdings already existing but in view of the fact in the greater part of Latvia there were not many such holdings, the rural reserves were used for the formation of new holdings. The area of the estate on division is assigned as follows: to the newly formed holdings 81 per cent., for additions of land for the requirements of small holders 6 per cent. and otherwise, 13 per cent.

All the small agricultural holdings and in consequence all additions of lands to these holdings are considered as inheritable property.

Persons who took part in the struggles for the liberation of Latvia have the preference in the assignment of agricultural holdings. With a view to the promotion of industry, special education and capital is taken into consideration, but in view of the new holdings, farming material. New holdings are granted to persons from 18 to 65 years of age.

In accordance with the instruction on the distribution of lands, all applications for the possession of lands are classed into seven groups as follows:

- I. Applications made by Government and communal authorities.
- II. Applications made by small holdings for additions of land.
- III. Applications made by small local holdings the rural ownership of which was incorporated into the reserve of rural lands or assigned to neighbouring holdings so as to enlarge these.
- IV. Applications relating to holdings of agricultural type which have been for a long time farmed by the cultivators on the spot.
- V. Applications relating to the requirements of small holdings already existing in view of restriping so as to constitute consolidated holdings.
- VI. Applications relating to newly formed holdings the tenants of which have put their labour and their capital into the holdings for 10 years.
- VII. All other applications made in view of the formation of new holdings.

The applications above indicated are ~~classified for~~ attention in the following groups:

Class I includes citizens of communes without land, who are: 1. holders of the knightly order of Lačplesis, 2. members of families of those who fell in the Latvian armies during the war, 3. disabled men of the Latvian army.

Class II includes all the citizens mentioned in the first class if they are: 1. soldiers who have served in the Latvian army for six months or have taken part in the struggles for the liberation of Latvia; 2. members of families where the breadwinners were Latvian sharpshooters killed on the Northern front up to 1 November 1917; 4. families where the breadwinners were killed in the struggle against the Russian autocracy and for the liberation of Latvia in 1905 and 1906; 5. those who took part in the struggle for liberation during 1905-1906 who were sentenced or have been disabled in connection with the repression of revolt or whose lands have been devastated

Class III includes all the citizens of the communes who are landless as well as citizens both living in the communes and enumerated in Class II

Class IV includes citizens who are landless and have sufficient farm stock for farming.

Class V includes all the other citizens with no farm stock who have made applications for assignment of land.

The artisans of the country may have small holdings not exceeding two hectares on the same conditions as the holdings newly constituted.

Co-operative societies may also have lands assigned to them.

5. Average extent of land left to the owner and assigned to the peasants.

At the choice of the owner or in accordance with instructions given by the Government, there is left to the former owner either a single holding if it exceeds 50 hectares, or several holdings or parts of holdings up to a total area of from 50

to 100 hectares. The value of these inalienable parts of the survey is higher than that of the newly formed holdings. In the terms of the law, the owners of farming material receive an indemnity based on the real cost of this material on the market. All the mortgage debts on real and other property of the alienated estate pass to the State. Industrial establishments are left to the owners which are not intended for transformation of agricultural products or for the preparation of products used in the local agriculture.

In this way non-alienated lands up to 100 hectares and including buildings are left to the former owners and as inheritable property.

The average area of lands assigned to the rural land reserve for newly formed holdings on 1 January 1927 in hectares:

Regions	The average area of the new holdings in hectares
Vidzeme	14.86
Kurzeme	16.18
Zemgale	14.40
Latgale	13.67
Latvia	14.79

Taken altogether, the holdings newly constituted and enlarged are considered as normal.

6. *The prices paid by the State to the owners per hectare of lands expropriated or transferred, and the prices paid by the peasants to the State.*

The State is expected to pay the mortgage debts for alienated estates and leaves without compensation the remaining parts of the non-alienated property. No other compensation is payable to the former owners. To facilitate settlement of the newly formed holdings, the value of the lands assigned by the rural land reserve is fixed very low: for lands giving an average return 10 lats per hectare, for the lands giving a higher return 20 lats per hectare.

7. *The rights of the peasants to contract subsequent mortgages on their holdings.*

In general, the building materials obtained by the settlers are supplied by the State forests. In the terms of the law of 21 December 1920 on building credits, the new owner was only to pay one-third of the cost of these materials; from 1922 onwards he was only expected to pay one-fifth, and sometimes nothing was asked from him. In order to pay for these building materials, the settlers could obtain loans on long term first granted directly by the State, then by the Land Bank of the State, founded in 1922. During the building period, the borrowers only pay one per cent. interest. The sums loaned however are not very large. A loan is not to exceed 2,250 lats for wooden houses and 4,500 lats for buildings constructed of fire-proof materials. For a farm of less than 15 hectares, the extreme limits of the loans are 150 and 300 lats per hectare; for artisans, they are 600 and 1200 lats respectively. During the five first years no taxes will be payable on the new holdings.

As the Land Bank of the State collects annual payments made by the settlers in payment for the lands they have purchased, it is endeavouring as soon as the legal formalities have been accomplished for the definitive transfer of the lands

to the purchaser, to convert the remainder of the sum due and the total of the different loans into one long term loan secured by a single mortgage. As a general rule, the mortgage varies from 2,500 to 3,000 lats or from 5,000 to 6,000 lats if the land is taken up with the buildings. The interest on these long term loans is 4 per cent. and the period within which repayment must be made is 41 years. Independently of the interest, the settler pays one per cent. for the administrative expenses, a rate which has been reduced since 1 January 1928 to 0.5 per cent. In view of the difficult situation of agriculture in consequence of the poor harvest of the last two years, the interest at 4 per cent. has been lowered to 2 per cent. for the four years to come.

If the owner of the newly constructed holdings does not meet his obligations in regard to repayment of his debts, his goods may be seized in accordance with the law of the Civil Code.

8. Consolidation of holdings in the execution of the reform.

The work of agrarian reform as relates to the peasant lands in Latgale provides only for the transfer of lands split into parcels on the farming units. There are farms which include up to 80 parcels or strips. The transfer of the parcels of land in the farming units was carried out within the terms of the law passed on 2 October 1924 (Measures relating to land distribution).

The treatment of lands thus separated as well as of strips of land separate and belonging to the same owner, with the object of grouping them into a single plot so as to form consolidated holdings, is carried out on the initiative of the owner concerned. The State is also expected to take the initiative in this matter. The interchange of parcels is done, as a rule, on the State initiative and is carried out side by side with the land distribution work of the State from the rural land reserve.

If for the purpose of formation of consolidated holdings the re-grouping of the separate lands is requested by owners who desire to accomplish this work by the majority of votes and taking into consideration the area of lands belonging to them, provision is made for owners to arrange separately for consolidation apart from a majority of votes, when the authorities for land distribution give consent.

Technical operations relating to the consolidation of separate lands are executed by the Minister of Agriculture, but on the request of owners these operations may be carried out by sworn surveyors. The consolidation plans must be approved by the competent authorities, *i. e.*, the land distribution committees.

The expenses involved in the execution of consolidation operations are paid by the owners at the price of 3 lats per hectare, and the remainder of the expenditure, representing about 5 or 10 lats per hectare, is payable by the State.

The regrouping of each holding is equivalent to an improvement in the technical farming conditions of small holdings and the changes made have a legal and financial importance.

The consolidation of the parcels of land is often associated with a change of dwelling house, and for that reason there are few households desiring change of residence: for the most part they remain on the spot.

9. Legal form of the transfer of property.

Owners of newly constituted holdings receive the lands as inheritable property. The right of ownership may be transferred to a third person in accordance with the

low of the Civil Code and with the consent of the State. The owners have the right to lease their lands, either in part or as a whole.

It is forbidden by the agrarian reform legislation for a single owner to unite more than 50 hectares of land, and anyone desiring to unite parcels of a total area of 22 to 50 hectares must obtain a permit from the Government which is only given on the understanding that lands are not to be divided into parcels of less than 10 hectares. Persons owning a number of farms at the time at which the law came into force were expected to dispose of them within three years. They had the right only to keep one holding without limit of area, or several holdings or parts of holdings up to 50 hectares in all. The same rule applies to any person who shall in the future inherit several holdings covering in all an area of more than 50 hectares.

10. *Village grouping of peasants and consolidated farmlands.*

Before the agrarian reform, peasant holdings were relatively large in Livonia and in Courland, the average extent being 30 to 40 hectares; in Latgalia, on the other hand, it was only 8 or 9 hectares. There are historical reasons for this great difference. Latgalia has been more fully affected than the other parts of Latvia by Russian agricultural conditions. The *mir* system was predominant in that region: only one-third of the farms were consolidated, while 49,500 farms were composed of lands which remained the common property of the village. The cultivators of these lands lived in villages, while in other parts of Latvia the consolidated farm was the prevailing feature and villages were so to speak unknown as places of residence for farmers. The agrarian reform has not made much change in the character of peasant grouping.

II. *Provisions for succession in the rural family.*

The provisions of the Civil Code relating to the right of inheritance of landed property are not changed fundamentally by the agrarian reform. In the case when, in consequence of inheritance, several farms the total area of which exceeds 50 hectares are united in the hands of the same owner, the latter is obliged to sell part of the property within three years from the day of succeeding to the possession of his inheritance. He may choose any part of the property up to a total area of 50 hectares.

(to be continued).

Development of the Agricultural Resources of the British Dependencies in Eastern and Central Africa.

The regions lying between the great Lakes of Central Africa and the Indian Ocean constitute to a somewhat remarkable degree a geographical whole. This area, covering about one million square miles or nearly one third of that of the United States, lies entirely within the tropics, and although there are large tracts which are semi-arid the greater part benefits by the characteristic heavy tropical rainfall occurring at two periods of the year. The great lakes already act, and in future will probably increasingly act, as means of intercommunication between various sections of the whole region; but the factor determining its economic possibilities is the presence of large tracts of highlands. The high plateau more than 3,000 feet above sea level which forms the greater part of South Africa, including the Rhodesias, extends through Eastern Africa into Abyssinia, and frequently rises to

altitudes of 5,000 to 8,000 feet. Hence while most tropical products can be grown there are also extensive highland areas suitable for European settlement, for temperate crops and even for dairy farming.

In the recently published Report of the Commission on Closer Union of the British Dependencies in Eastern and Central Africa (viz. Uganda, Kenya, Tanganyika, Nyasaland and Northern Rhodesia), it is remarked that the main economic interest of this area will always lie in agriculture, and among the questions discussed by the Commission is that of the application of different methods of economic exploitation especially in relation to native requirements and improvement of consumption resources.

These different methods may be roughly grouped as follows: a system of cultivation by natives each working a small holding on his own account; ownership and working by European settlers, with the help of native labour, of comparatively large farms, say a few hundred to a few thousand acres; development of land on a large scale in dependence on irrigation projects, water boring schemes, etc., where large capital, and direction either by Government or by a large joint stock company are required. No large schemes of land development have yet taken definite shape, although certain possibilities have been explored especially in connection with the lower reaches of the Tana river and with the Thika river in Kenya and with the Rufiji valley in Tanganyika. As regards the first method indicated, good examples of economic result from native cultivation are afforded by the success of the cotton growing in Uganda, and on the Kavirondo reserves of Kenya, while a striking example in Tanganyika is the coffee-growing, notably that of the Kilimanjaro Native Planters' Association. On the other hand there is considerable territory in the highland areas of Kenya which can be more suitably developed in large farms under European management, and it is not too much to say that production of maize, wheat, coffee, and dairy produce on the scale now obtained in Kenya could scarcely have been obtained by native cultivators working individually on small holdings.

The above is a brief outline of the position: it is proposed to examine the agricultural factors and possibilities of this great region in somewhat more detail.

It is clear that the essential and dominant factor is that of native labour and native production, while full recognition must be given to the great value of the enterprise of European immigrants as displayed in Eastern and Central Africa. "European settlement represents", as the Report says, "an immense fund of energy introduced into these territories, and it has an enhanced importance through its association with the larger European civilisation of which it is the outpost".

Taking first the population figures, the immense preponderance of the native element will be seen from the following table: (relating only to Kenya, Uganda, and Tanganyika, available figures):

Population	Kenya (Non-native Census 1926)	Uganda (Estimated 1926)	Tanganyika (Estimated 1927)
Native	2,549,300	3,123,581	4,319,000
Non native:			
1. Europeans and other			
white races	12,529	1,752	5,274
Including officials (a).	(1772)	(370)	(727)
2. Arabs	10,577	—	4,041 (at census of 1921)
3. Other Asiatics . .	30,583	11,613	19,659

a) Figures taken from staff lists of 1927, a deduction of onethird being made for absences on leave.

The proportion between white and native population is less than 1 to 400, a ratio which makes the conditions approximate rather to those of India than to those of South Africa (1 to 4). As has been stated in the House of Commons (Parliamentary Debates, 19 July 1927, p. 287), Eastern Africa, while it "can never remain a purely black man's country, is never going to become a white man's country, even in the sense in which South Africa has become a white man's country. It is a country in which the native races will always form the dominant element of the population, and their interests will be paramount".

What are the natural occupations and means of subsistence of the native populations in the different parts of this area? As everywhere the occupation depends on the nature of the locality. They may however be roughly classed as follows: growing of food crops, including maize, millet, ground nuts, rice, beans, sweet potatoes, sesamum, etc.; growing of cotton (originally as mere plot cultivation of semiwild bushes round the village); and herding of cattle. The native method of cropping, as is practically universal with backward races, has until lately been that of "fugitive cultivation", or abandonment of a clearing as soon as the soil is exhausted, and accordingly gradual denuding of forest growth by a succession of fresh clearings (1).

As regards cattle farming it may be noted that: 1. the cattle belonging to native are all so-called "scrub", or small unimproved cattle; 2. in certain districts, notably in the central and western portions of Tanganyika, the presence of tsetse fly is a barrier to this industry; 3. on the other hand the native tribes of East Africa undoubtedly possess natural aptitudes for the management and care of stock.

On the whole native farming may be pronounced to be of a *static* character: any impulse towards change or progress has been supplied by the European immigrants who have made their presence felt in several quite distinct ways which it may be profitable to trace as the best method of arriving at a synthetic view of the agricultural situation in this region.

The following is a statement of the proportion of lands alienated for white settlement in:

	Total area sq. miles	Alienated to non-natives sq. miles
Kenya	208,320	10,511
Uganda	110,300	253
Tanganyika	373,494	3,430
Nyasaland	39,964	6,268 (1)
Northern Rhodesia	291,000	18,196 (2)
	1,023,078	38,659

In Kenya in addition to the land already alienated, about 1,500 square miles have been surveyed for alienation and a further 3,000 square miles have been earmarked for possible alienation.

(1) The same story comes from South Africa: "the unimproved native is one of our worst wasters of land". *Farmer's Weekly* XXXVII, No. 1, 038, Bloemfontein, 8 May 1929.

(2) Including 4,300 square miles held by the British South Africa Company in Northern Nyasaland.

(3) Including 14,300 square miles held by the North Charterland Exploration and British South Africa Companies.

In Uganda owing to natural conditions there is little or no land available for further alienation.

In Tanganyika the limits of alienation in the principal area of non-native settlement (the Moshi and Arusha districts) have been almost reached and the pressure of the growing native population in this area is making itself evident. The chief other area suitable for white settlement consists in the South western highlands partly lying in the Iringa territory, but no detailed surveys of this tract have yet been made available.

As is well known the European penetration has assumed differing forms in the different great regions, notably in Kenya and Tanganyika. These differences are partially connected with the systems of land distribution and their historical origin. In Kenya during the early days of British administration in the first decade of this century, it was noted that large tracts of fertile land situated on the highland areas were lying uninhabited and unproductive, and on attention being drawn to this circumstance, grants were made of such tracts to settlers from South Africa or from Great Britain subject to development by grantees. In 1907 it was decided that all land grants to immigrant settlers should be on leasehold tenure from the Crown, rents to be subject to revision at intervals of 33 years. A gradual delimitation of "native reserves" or tribal areas followed, *a system which is unknown in East Africa outside of Kenya.*

In Tanganyika, as a mandated territory, the entire country is regarded as being native land, roughly apportioned between tribe and tribe, and for white settlement purposes farm blocks of reasonable size are selected in consultation with the chiefs, within the tribal areas.

The settlement areas in Kenya lie for the most part along the Mombasa-Uganda railway, mainly either on the well-watered highland tracts of the Kikuyu country (from 4,500 to 6,500 feet), or in the Rift Valley, *i. e.*, in the best known portion of the great longitudinal depression which is one of the striking geological features of East Central Africa. The floor of this "valley", although lying about 1,500 feet below the, in some parts precipitous, ridges to east and west, is at its highest levels, *viz.*, round Lake Naivasha, some 6,500 feet above sea level and accordingly well suited for European settlement.

Coffee which was found to be indigenous in certain districts is probably the most remunerative crop where conditions are suitable: other important crops are maize, wheat, beans, sweet potatoes, and lately there has been a large development of lucerne cultivation, together, with an extension of dairy farming. Sisal is also becoming an important and remunerative crop.

The farms or plantations are under white management though mainly worked by African native labour. In an earlier number of this Review (1) some account was attempted of the working of the European plantations in Kenya and of certain results on native economy. It may here be added that in the Report of the Department of Agriculture of Kenya Colony for 1927 it is stated that "there is in Kenya "too great a tendency for farmers to remain planters, far too great a concentration on the single crop". Also that "it is becoming more and more evident to progressive farmers and farmers' associations that the system of agriculture in the Colony requires serious consideration". The Report just published for 1928, and mainly statistical, gives some evidence of improvement along these lines, but the facts as generally known seem to point to a predominant interest

(1) See: *International Review of Agriculture*, May 1927, Kenya: Agricultural Development and Native Economy.

among Kenya planters in commercial returns from *export* of certain products rather than in systematic development of the resources of the country for its inhabitants.

On the other hand satisfactory results have followed the efforts of the Administration to encourage cotton growing in the native reserves of the Kavirondo district, a lowland area on the north-eastern shores of Victoria Nyanza. Here, as in the practically co-terminous but much more extensive area of cotton-growing in Uganda, the traditional African cultivation of cotton has formed the basis of the industry, but since 1922, instruction in planting and picking has been given, improved seed distributed and ginneries erected. Ploughs were also distributed so as to facilitate the proper treatment of the ground after the crop. An export crop is secured; in the case of Uganda the forecasts for 1928-29 were for at least 200,000 bales, in Kenya the figures are much lower. It may be added that cotton growing is not allowed by the Administration to interfere with the rotation of food crops, and in this way the native farmer is encouraged to take his place as an independent unit, while he is also exporter.

These cotton regions are served by the two branches of the "Uganda railway": the one with terminus at Kisumu on Lake Victoria, in Kenya territory, and the other, the new extension from Nakuri, passing into Northern Kavirondo and onwards into Uganda itself. The opening of this new north-western branch in 1927-28 is a fact of peculiar economic importance.

In Tanganyika there has been a sustained policy, in part an inheritance from the German administration of the territory, of encouraging and improving native agriculture, alike as regards food crops and also in respect of the main commercial crops, *viz.*, coffee and cotton. It may be recalled in passing that in Kenya the cultivation of Arabica coffee by native growers is not allowed.

In the Reports of the Department of Agriculture of Tanganyika Territory, however, for twelve months ending 31 March 1925 and 31 March 1926, accounts appear in some detail of the stimulus given to native coffee growing in Northern Tanganyika especially by the formation of the Kilimanjaro Native Coffee Planters Association. The Director of Agriculture, Mr. A. H. Kirby, reports in the second of the two Reports as follows:

The Kilimanjaro Native Coffee Planters Association "has now become a strong organisation possessing its own coffee nurseries and appliances and materials for loan or supply to members for dealing with pests, assisting in the work of the Department for helping and advising members and fostering a public opinion among natives for the careful production of good coffee. The co-operation for marketing this coffee has already become a matter of fact, and it is now graded in Moshi and shipped direct to London, where it has received reports from brokers and after examination by the Imperial Institute that show that its quality equals and in some cases surpasses that of the non-native coffee from the same region. The aim is for the Association itself to grade and arrange for the shipment of the coffee of its members; and it will not be long before increased experience enables it to undertake this work in its own behalf. Lastly the native planter like all others will share in the protection to be given by the legislation just mentioned; and the possession by his Association of means of dealing with pests and disease gives him facilities for the purpose that his own small resources could never enable him to acquire."

According to later reports, native coffee growing is also developing under Government supervision and encouragement in other suitable districts, and the Department of Agriculture has recently issued a Coffee Planter's Guide in the vernacular and in English, giving full instructions as to the best methods of

growing both Arabica and Robusta coffee, the proper choice of catch crops, control of pests, etc. (This is only one of a series of such advisory publications, and articles are also regularly contributed on agricultural subjects to periodicals in Tanganyika appearing in the vernacular and in English).

As regards cotton, the policy for encouragement of native cultivation is the same as that pursued by the Uganda and Kenya Administrations, but an interesting feature in Tanganyika has been the wide spread organisation of the marketing of native cotton (1), originally by an auction system and latterly by one of daily sales at approved stores, licensed for the purpose.

Considerable impetus to development has been given by the completion of the Central railways system, connecting Dar-es-Salaam with Kigoma on Lake Tanganyika, a branch from Tabora to Muvanza on Lake Victoria being now added. The only other railway in the Territory is the comparatively short line from the port of Tanga to Moshi on the slopes of Mt. Kilimanjaro, with an extension to the Mombasa-Uganda railway at Voi, and another extension in progress to Arusha, one of the chief coffee growing centres.

The work of organising and improving native cultivation generally, which is undoubtedly an outstanding feature of the Administration of Tanganyika, is carried on:

1. under the direction of the three main Agricultural Experiment Stations, of which the best known and the oldest is the Amani Institute;
2. through the new system of Native Council Administration. The Council consists of local chiefs of tribes, who assist the Department of Agriculture in the administration of a number of large experimental farms on which improved seeds of the main crops, maize, rice, beans, millet, groundnuts, etc. are grown and issued to the chiefs' own farms, which in their turn serve as demonstration fields for the trying out and eventually for the multiplication and distribution of seeds. This new system, says the Director of Agriculture, "has revealed opportunities of ready agricultural organisation and standardisation such as are rarely possessed in other countries".

The Reports give abundant and most interesting detail of the various schemes for instruction and guidance of the natives, including a very successful scheme for training in ploughing with preliminary breaking in of oxen which has been in operation since 1924, and has had effective support from the local chiefs. The ploughs, of which several hundred are now in use, were purchased by the Government and re-sold to the natives on easy terms of repayment.

It is a recognised fact that the native tribes of East Africa, speaking generally, possess marked agricultural and pastoral aptitudes, and the experience of the Tanganyika Department of Agriculture would certainly show that they respond readily to wisely planned guidance (2). The methods which have for much longer been in use for the direction of the less intelligent native growers of British West

(1) For a detailed account see *International Review of Agriculture*, March 1928. Organisation of Marketing of Native Grown Cotton in Tanganyika, pp.

(2) It is of interest to note that, although on a smaller scale, similar results in the improvement of native agriculture have been obtained by similar methods in Jamaica through the agency of the, Jamaica Agricultural Society. See a paper read by Lord Olivier before the Royal Society of Arts, London on 14 December 1928 entitled, "The Improvement of Negro Agriculture". *Journal of the Royal Society of Arts*, Vol. LXXVII, N. 3980. London, 1 March 1929: also his article on the same subject in the *Journal of the Jamaica Agricultural Society*, Vol. XXXIII, Nos. 2, 3, 4. Kingston, February, March, April 1929.

Africa will doubtless, given the better material in East Africa, have a much greater fruition.

It may be added that for September of this year (1929) an Exhibition was arranged at Dar-es-Salaam of the agricultural and other resources of Tanganyika representative of agricultural products grown by European and native farmers, and of the cattle industry, which it is stated now exceeds a capital valuation of L. 7,000,000 (1). A former Report of the Department of Agriculture (1923-24) made reference to the "inborn sense of handling and caring for cattle" possessed by the Tanganyika native in certain districts, and also spoke of the "docile type of cattle which though small are of hardy constitution". These factors have clearly, as was hoped, led to a satisfactory development of the industry.

It should be understood that there is no neglect of the interests of cultivation by Europeans in Tanganyika, the rising and important cultivation of sisal being almost entirely in European hands.

In conclusion the following table shows the relative values of the exports, produced by natives and European respectively, in Kenya, Uganda and Tanganyika, for the years 1926 and 1927. It may however be once more emphasised that in the words of the Commissioners themselves, "the economic demand for food and raw materials from tropical and sub-tropical countries is not inexhaustible", and that it is the resources of these regions for *internal* consumption and development which are of absolute value.

Values of Exports of Domestic Produce (1) (1926 and 1927).

	Kenya		Uganda		Tanganyika	
	1926	1927	1926	1927	1926	1927
	£	£	£	£	£	£
Produced mainly by natives	390,819	360,335	3,428,809	2,153,287	1,102,077	1,145,613
Produced mainly by Europeans (2) . .	1,724,559	2,403,017	135,619	82,076	1,170,320	1,307,871
Produced by Natives and Europeans .	—	—	—	—	400,026	966,992
Miscellaneous Minor items	298,963	323,564	31,617	74,937	254,555	314,985
Total Exports, excluding Re-exports Government stores and specie (3) .	2,414,341	3,086,916	3,596,045	2,310,300	3,025,978	3,295,461

(1) Summarised from the Export Statistics given in the Report of the Commission on Closer Union. Appendix VI. pp. 321-323. — (2) For Kenya, the figures include an export of carbonate of soda, value £ 87,426 and L. 263,129. For Uganda, the figures represent rubber only produced by Europeans and Indians. For Tanganyika, the figures include mica, value, £ 26,592 and £ 16,994, also gold as below — (3) In the case of Tanganyika, the total exports exclude re-exports but include Gold Bullion, the value of this export being respectively for the two years, £ 31,290 and £ 36,203.

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(1) *Bulletin of the Imperial Institute*. Vol. XXVII, No. 1, London, 1929, p. 57.

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MISCELLANEOUS

Changes in Bread Consumption : Causes and Consequences.

I. — CULTIVATION AND CONSUMPTION OF CEREALS IN EARLIER TIMES AND THE SUPERSESSON OF RYE BY WHEAT IN HUMAN CONSUMPTION.

The cultivation of wheat and rye — the two bread grains which will be mainly dealt with in the present article — stretches back into times far beyond the dawn of recorded history. Wheat the one which seems to have been the earlier to appear, was cultivated together with millet and barley already 7000 years ago by the aboriginal Swiss lake-dwellers and by the Scandinavian Stone-Age man. About 3500 B. C. it was grown in Egypt and Babylonia together with barley (the latter the earliest crop in those two ancient civilizations), and 2700 years before the Christian Era we find it mentioned among the five principal crops of China.

On its march westward from its original home somewhere on western Asia into the Mediterranean lands, wheat had already come to Greece in prehistoric times, but in the fifth and fourth century B. C. the most prominent crop in Greece was still barley. In 328 B. C. barley thus made up not less than 90 % of the total grain production of Attica, a fact, which however must not lead us to the conclusion that nine-tenths of the grain consumed by its people was barley as three-fourths of the cereal requirements of Attica at that time as a rule had to be imported. In Italy where in prehistoric times barley and spelt were the principal cereal crops, wheat was not, until the later republican period, the most cultivated bread-grain. In later classical times, however, with the growth of the great slave plantations in Africa and Sicilia and the gratis distribution of grain to the Roman citizens, the cultivation of wheat was rendered an unremunerative enterprise in the most accessible parts of Italy, which were given up more and more to pasturage, the vine and the olive. At the time of Roman conquests barley seems to have been the principal grain of the Iberian Peninsula and together with millet the most prominent crops in Gaul. The Celtic aboriginals of Britain chiefly cultivated oats, but judging from recent finds of carbonised wheat, which may be of a far older date than the Roman invasion, it is not impossible that this grain was grown there to some extent also before the Roman influence made itself felt. However this may be, there is a considerable amount of evidence that in the third and fourth century A. D. wheat was largely exported from Britain, which was regarded as one of the granaries of the Empire.

Rye, probably a native of Southern Russia or the adjoining Asiatic area known as Turkistan, is not nearly so early in its appearance as wheat. It was unknown to the ancient Babylonians, Egyptians, Chinese and Homeric Greeks, and in Italy, where it became known also rather late, it was in classical times only grown in a few outlying districts such as the country around Turin. The famous decree of Diocletian 301 A. D. contains one of the earliest references to rye in legislation. The Teutonic peoples, on the other hand, who lived in closer contact with the Slavs were acquainted with rye much earlier than the inhabitants of Greece and

Italy. In Scandinavia as well as in Central Europe, finds of rye date back to the transition period between the Bronze and the Iron Age.

Everywhere in the countries around the Mediterranean basin, wheat in those ancient times was the food of the rich, barley the food of the poor. In Rome barley was looked upon as fit only for barbarians and slaves, the free citizen accepted nothing but wheat of which he was able to obtain from the State daily a soldier's ration (about 850 grammes), *i. e.* about 90 % of his daily energy requirements, for about one-third of the market prices, in Cicero's day. Under the Empire the daily ration was given free. In the food of the Roman soldier wheat was too the most important ingredient, barley had a place only in the emergency and penal dietary. On the whole cereals were considered the essential element in the food supply of the soldier and not, as in modern armies, meat, which was expressly characterized by Caesar as "*secundum inopiae subsidium*", compensatory food. When his troops in Albania were in want of wheat this condition is described as famine, though cattle for slaughtering were available in abundance.

Though bread baking is one of the most ancient arts known in a rude form already to the paleolithic man, the main form under which cereals were eaten during these early civilizations was porridge, not bread. In Greece the consumption of bread was thus in Solon's time still looked upon as a luxury and in Rome also in later classical times, at least among the poor and in the army, the quantity of wheat eaten as bread was small as compared with the proportion consumed as porridge. Of the daily wheat ration of the Roman soldier, probably about 250 grams were made into bread for several days in advance and for a whole detachment at a time, while about 600 grams of whole grain was delivered daily to each *contubernium* (troop of 10 men) and ground for porridge on portable handmills, one for each *contubernium*. Undoubtedly Roman, Greeks and Egyptians alike understood how to make an excellent bread. The grain was ground between mill-stones, first worked by hand, then by animals and waterpower (1), and the dough baked in ovens of stone or clay, a baking method in principle still in use. They knew too the art of making fermented bread by means of leaven, a knowledge first, as it seems, acquired by the Egyptians and then spread from them to the Greeks, the Jews and the Romans, and from these last to all the other nations which came under their rule.

Leaving classical Italy behind and turning our attention to conditions prevailing in later epochs north of the Alps, we find in all countries wheat for centuries playing a much less predominant rôle as food for the people than in ancient Rome. This holds good for the still largely rye growing and rye eating countries like Germany, the three Scandinavian countries, Finland and Russia, where in the Middle Ages and the next following centuries rye and barley (in Germany also oats) were the principal food grains. It is also true of England and France where the transition to a wheat diet came much later than is usually believed.

The standpoint once taken by THOROLD ROGERS, in his famous work "*Six Centuries of Work and Wages*", that rye "appears never to have been extensively cultivated as an article of food in England", can scarcely now be maintained. Recent investigations carried out by Ashley show that in earlier centuries the cultivation of rye was by no means exceptional or sporadic in England. It was grown more or less over the greater and most thickly populated part of the

(1) The use of running water as motive force was introduced into Greece probably not before the fourth, in Rome not before the third century B. C. Wind mills, which are said to have been brought from the East by the Crusaders, were first seen in Europe in 600 A. D.

country forming a very important element in the food of the rural population, although in the large market towns the bread generally eaten was wheaten already in mediaeval times. At the end of the 17th century rye still furnished not far short of forty per cent of the bread corn and a complete transition to a wheat diet on the part of the mass of the people was only effected during the 19th century.

In France, although even centuries ago famous for its fine wheat bread and a country with much more land naturally suited for wheat growing than England, the transition to a more general consumption of wheat took place later still. The principal breadgrains of the poor in the 18th century were rye and barley; the peasant practically never tasted wheat bread. Even people belonging to the middle class seldom at that time — if we may rely upon the statements of Calonne in his work "*La vie agricole sous l'ancien régime dans le Nord de la France*" — enjoyed pure wheat bread, their bread being usually made of one third of wheaten flour and two thirds rye flour. The wheat area did not begin till the Restoration to catch up with that of rye and even in 1840 the rye crop amounted to more than half of the wheat crop.

In U. S. A., too, now one of the most important wheat growing countries of the world, the prominence of wheat is largely a phenomenon of last century. Rye was planted earlier than wheat by English settlers in Massachusetts, by Dutch settlers in New York, and Swedish settlers in Delaware. Down to the end of the 18th century rye was a staple flour in New England and other parts of the American colonies peopled from England, and even in 1821 William Cobden tells us in his "*Cottage Economy*" that "few people upon the face of the earth live better than the Long Islanders, and yet nine families out of ten seldom eat wheaten bread. Rye is the flour they principally make use of".

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At present wheat stands indisputably as the most important bread supplier to the human race. During the quinquennium 1924-28 the acreage sown with wheat and rye amounted respectively to 120 and 46 million hectares in all countries under survey in the Statistical Yearbook of the International Institute of Agriculture and their total average production to 1,093 and 437 million quintals respectively. In non-European countries rye does not play any rôle as human food and in Europe it is of importance only in the countries in the central, northern and eastern part of the continent. In Great Britain its consumption is practically extinct. In Belgium it is no longer true, as it was reported by E. de Laveleye about fifty years ago, that rye was "the foundation of the food of the Flemish people". For this section, as for the other section of the Belgian population, wheat is nowadays the principal bread grain, the quantity of rye consumed as human food in Belgium being calculated only to amount to about 2% of the wheat consumed. Most of the somewhat important Belgian rye production and rye imports serves as stock feed. In Switzerland the amount of rye used in breadmaking does not form any more than 5-6% of the flour ingredients and it is very likely that were it not for the regulation which compels the millers to buy the home grown rye offered them by the Grain Administration, even this modest proportion would diminish. In Italy the rye production is unimportant. Of the total amount of home-grown cereals used for human nutrition rye only forms about 1%. In France, Spain and Portugal the use of rye is not so unimportant as in the four last mentioned countries. In some poor French districts as Brittany, Ceven-

nes and in mountain regions, where wheat cannot ripen, rye is still grown and consumed and for the present an admixture of 10 % of rye (or maize, barley, buckwheat or rice) to the wheat flour is made compulsory for all mills in order to eke out the supply. During the years before the war however (apart from the districts mentioned), everybody in France, even the poorest, ate a bread made of wheaten flour of 60-65 % extraction. In Spain and Portugal rye is grown and utilised in breadmaking and for Portugal it is calculated that for about one-sixth of the population rye is the predominant breadgrain. In both these countries, however, maize, next to wheat, plays a much more important rôle in bread-making than rye. Also for the Balkan States, Rumania, Bulgaria, Yugoslavia and Greece, this holds good, and in Bulgaria only, the use of rye for human consumption can be said to be of any importance.

Only in Central, Northern and Eastern Europe, as already pointed out, are the typical rye consuming peoples to be found in our day, but even amongst these peoples, at any rate amongst those for which any comparable statistics are available, a very marked decrease in the rye consumption has taken place. Between the quinquennium 1909/10-1913/14 and 1922/23-1926/27 the quantity of rye consumed annually per head of population (for all purposes except seed) fell in the Netherlands from 110 to 65 kilogrammes, in Germany from 145 to 99, in Denmark from 222 to 142, in Norway from 118 to 75, in Sweden from 110 to 87 and in Finland from 186 to 120 kilogrammes or by 43, 32, 36, 37, 21 and 36 per cent. respectively (1). Too much importance should, however, not be attached to these figures. Even if the data available as regards production, seed requirements, etc. were absolutely exact, it would be erroneous to conclude that the whole of the decrease indicated above would necessarily be due to a decrease in the amount used in human consumption; in fact the figures also include the quantities utilized for industrial purposes and feeding as well as the enormous quantities of bran, which in the milling process are separated and also used as a feeding stuff. Although there can be no doubt that it is a change in bread consumption, which is responsible for a large proportion of the fall, it is evident that part of it may also be attributed to changes in the amount of rye used for feeding or industrial purposes, or to changes in the milling process, but how far this is the case it is impossible to say (2).

(1) As regards Germany and Finland the consumption figures for both the pre-war and the post-war period have been taken from the Statistical Yearbooks of the respective countries. In the case of Denmark, Norway, Sweden and the Netherlands the pre-war data are those given in the International Yearbook of Agriculture 1913-1914, whereas for the post-war years the amount consumed during each commercial year (1 August-31 July) has been calculated — taking as an example, the year 1922-23 — by adding to the home grown crop of 1922 the import (or export) surplus of grain and flour (flour expressed as grain by multiplying with the factor 1.53876) of the commercial year 1922-23, by, further, subtracting from this sum the amount used as seed for the area harvested in 1923, and finally, by dividing the rest by the estimated population of the country at the end of the year 1922. In the case of Sweden and Norway the seed requirements have been taken from the Statistical Yearbooks; in the case of Denmark and the Netherlands they have been assumed to amount to respectively 170 and 177 kilogrammes per hectare.

(2) The amount of grain fed to live stock varies of course considerably from year to year and estimates are difficult. In Germany, however, it has been calculated that before the war about 25 % of the rye crop (outside of seed) was assigned to animals and industry, while only 10 % of the wheat crop was so utilised. In U. S. A. two-thirds of the rye grown was in normal times before the war calculated to be used as stock-feed and part of the remaining one-third to make alcohol. Of the wheat only about 2 % was estimated as fed to the live stock. During the quinquennium 1909-13 nearly 20 % or 300,000 tons of the homegrown wheat crop were in the U. K. used as feed for animals.

Owing to the considerable changes in the frontiers no comparable pre- and post-war figures concerning the wheat and rye consumption are available for the other countries in Central and Eastern Europe. In Russia however, where during pre-war landlordism in spite of the immense wheat production the peasants mainly consumed rye, the wheat being exported, the consumption of rye is said to have increased. As however the wheat consumption is estimated to have increased even more, there has, in Russia too, been a fall in the relative importance of rye as food for the people. As regards Poland, Polish experts are of the opinion that there the wheat consumption has decreased and the rye consumption increased as compared with pre-war years, but there can be no doubt that this phenomenon is only of a passing nature and that in Poland as in the other typical rye eating countries the importance of rye for human nutrition in the near future will decrease.

Annual Average Consumption of Wheat in various countries
1909/10-1913/14 and 1922/23-1926/27 (1).

(Kilogrammes per head of population) Countries	1909/10-1913/14 kilogrammes	1922/23-1926/27 kilogrammes
Germany	92	65
Belgium	228	181
Denmark	112	118
Spain	163	151
Finland	55	43
France	224	195
Great Britain and Ireland (1922/23- 1926/27 Northern Ireland)	163	158
Italy	167	183
Norway	43	65
The Netherlands	120	117
Portugal	55	66
Sweden	70	82
Switzerland	142	131
Canada	312	188
U. S. A.	146	133
Argentina	178	151
Japan	14	20
Australia	179	178
New Zealand	163	160

(1) In the case of Germany and Finland the figures have been taken from the Statistical Yearbooks of the respective countries (German figures also include spelt) and in the case of Portugal from the Acts of the 13th International Congress of Agriculture. For all the other countries pre-war quantities are quoted from the International Yearbook of Agriculture 1913-14 and the post-war quantities calculated in the same way as in the case of rye, mentioned in the foot note on page 7 of typescript except that flour has been expressed as grain by multiplying with the factor 1.33333 and that the seed requirements have been assumed to be (in kilogrammes per hectare): Belgium 150, Denmark 180, Spain 135, France 150, Great Britain 134, Italy 130, the Netherlands 152, Switzerland 200, Canada 109, U. S. A. 93, Argentina 75, Japan 59, Australia 62, and New Zealand 134. Changes in frontiers may have had an influence on the average consumption calculated for countries like France, Germany, etc. as well as in the case of Great Britain and Ireland.

The very considerable fall since the pre-war period in the consumption of rye in those typical rye-producing and rye-consuming countries for which comparable statistics are available has not in all of them been accompanied by an increase in the wheat consumption. This increase has occurred, as is seen from the table below, only in three Scandinavian countries, while in Germany, Finland, and Holland the wheat consumption has diminished. A noteworthy fall in this consumption has however, as will be noticed, also taken place in several of the especially wheat eating countries such as France, Belgium, Switzerland, U. S. A., Canada and Argentina. Among the other wheat eating countries given in the table only Italy and Portugal show an increase of any importance. The very large proportional augmentation in the wheat consumption of Japan is no doubt a proof of the fact that Oriental races, on adopting Western manners of life, are apt to replace rice by wheat in their diet.

As with rye and for the same reasons, only a limited value attaches to the figures in the table, and we have of course no right to draw the conclusion that changes in the quantity of wheat consumed per head of the population as indicated by the figures — even supposing that the estimates of production, for seed-grain, etc., are absolutely correct — were entirely due to changes in human consumption of wheat flour. The fall in the wheat consumption in Switzerland since pre-war years is, for example, due, at any rate to a great extent, not so much to a decrease in the bread consumption as to the somewhat lower post-war percentage of extraction in milling (75 % against 60-65 % before the war), which has reduced the necessary import quantity. We have, however, undoubtedly, in spite of the uncertainty of the figures, the right to conclude that though the wheat consumption in the world as a whole has increased, a noteworthy fall in the consumption of this grain for human food has taken place in several countries, both in countries where rye eating is prevalent and in some which are especially wheat consuming. In view of the fall in the rye consumption and the decrease in the quantity of maize used in human nutrition in countries like Italy and Portugal we have certainly, too, reason to believe that in several countries of western civilization a strong tendency towards reduced consumption of cereals is making itself felt.

The causes of the increased importance of wheat as human food at the expense of rye are manifold. The habit of doing what other people do, especially those, whom we consider superior, has no doubt been one of the strongest forces working in favour of an increased wheat consumption. Wheat, being too expensive to be used by all people, came quite early to be regarded as a mark of superior social position, and consequently its use spread as the result of social ambition and imitation. An interesting exemplification of this fact is seen in the United States. Immigrants and the children of immigrants from Slav, Scandinavian and Teutonic countries use rye-bread from choice. The second generation on the other hand is apt to regard rye bread as carrying a social stigma and to give up its consumption.

As rye has been more the bread of the country than of the city, the growth of the city population has also been a strong contributing factor to the decrease in the consumption of rye bread and so has too the increase in the real wages of the masses, an increase which has made it possible for them to realize to a still greater extent their social ambition in respect of wheat eating.

The increase in the demand for wheat has been met by a huge increase in the supply owing to the opening up of new production areas in non-European countries, the improvement and cheapening of transport, the results obtained by seed selection, which has been much more generally directed towards wheat than rye cultivation, and not least, the invention of methods for producing nearly unlimited quantities

of cheap synthetic nitrogen, a factor of a much greater importance for wheat-growing than for rye-growing.

One other factor, which has been frequently overlooked but is none the less very important, working in favour of increased wheat consumption remains to be mentioned. It is difficult to make a whole rye bread with yeast, which produces a fermentation too rapid for the less tenacious quality of the rye gluten. Sour dough with its slower action seems to be necessary. As however modern bakeries prefer a rapid fermentation they favour a mixture of wheat and rye flour, which works satisfactorily with yeast, and hence for this reason too the demand for rye in human nutrition becomes diminished. The fact that rye flour, owing to its less content of gluten, absorbs less water than wheat flour contributes of course also to the preference of the bakeries for producing mixed breads, as for them the number of loaves to be secured from the unit of flour is one of the most important interests.

The growth of the city population with its more sedentary and in-door life and less manual work and the improvement in the standard of life are thus contributory causes of the fall in the rye consumption. The remarkable decrease which has also occurred in wheat consumption since pre-war years in a number of countries, is however also largely due to those changes in the social and economic status of the masses, which have lessened the demand for the coarser foods and increased the demand for more expensive foodstuffs especially milk, meat, fruit, vegetables. As a cause, and at the same time as a consequence, of this increase must also be mentioned the remarkable improvement during the last two decades in the packing, storage, refrigeration, and transport of fruits and vegetables, which now for the most part are no longer seasonal in the consumption but staples during the larger part of the year. There can further be no doubt that the newer knowledge of nutrition especially as regards vitamins has been an important factor indirectly favouring the fall in the bread consumption by increasing the demand for fruits and vegetables.

The transition from rye to wheat in human nutrition must be differently judged according to whether we look on the phenomenon from a physiological or from an economic point of view.

In comparison with rye, wheat shows, according to the chemical analysis, on an average a greater percentage of protein and fat, a smaller percentage of carbohydrates, and a somewhat less content of calories. When milled to the same percentage of extraction, wheat presents itself too, as the more easily digestible of the two flours, both protein, fat, and carbohydrates being utilized to a higher percentage than in the case of rye flour, owing to the fact that the bran makes up a greater proportion of the weight of the rye grain and that the rye bran in itself is less digestible than the bran of wheat.

As to the greater proportion of fat in wheat flour (as compared with rye flour of the same extraction) and its better utilization in the human body, this is comparatively unimportant as the actual amount of this constituent is in both kinds of grain only trifling; and as regards the less satisfactory utilization of the carbohydrates in rye flour, this loss is counterbalanced by the greater actual amount of this nutrient in rye. The greater percentage of protein and its better digestibility indicate, on the other hand, a superiority of wheat. Practically, however, also this superiority is of little importance, as the consumer, with the present day mixed diet, is always sure to get enough of protein, whether his body is daily supplied by the bread that he eats with 5 or 10 grammes more or less of this nutrient assuming a consumption of 500 grammes of bread daily. There would be no more

gain as regards the quantity of protein available, if this bread were made of wheat instead of rye at the same percentage of extraction (1).

As regards the question of the digestibility of wheat and rye flour, one other point must however be stressed. In the comparison mentioned above between wheat and rye flour of the same percentage of extraction, flours not initially comparable were juxtaposed, the rye flour containing as pointed out a greater proportion of bran than the wheat flour. If the comparison be made on the basis of identical proportions of bran and germ, the superiority of wheat flour disappears and rye flour shows itself as equally well utilized as wheat flour (2).

From a physiological point of view it may then be said that it is a matter of comparative indifference whether we eat wheat or rye bread, and when Sir WILLIAM CROOKES in his famous address to the British Association at Bristol in 1898 states that wheat is more "health-giving" than rye or other grains and "that the accumulated experience of civilized mankind has set wheat apart as fit and proper food for the development of muscle and brains", he expressed an opinion, still widely held and propagated, but without adequate foundation. It is, in fact, not so much human experience but human erroneous belief that has classed wheat as a better and more health-giving food than rye.

From an economic point of view, on the other hand, the revulsion against rye in favour of wheat in countries especially adapted for rye growing is a matter of great significance. To import the relatively expensive wheat while at the same time large quantities of the home-grown millable rye are exported or used as feeding stuff may represent good economy for the individual farmer or merchant; for the economy of the country as a whole it is certainly unsound.

As farm animals require the greater part of the food eaten for their own body requirements, the production of meat and milk from grain must be judged a wasteful process. The efficiency of farm animals as converters of fodder into human food varies widely according to the kind of the live stock, the age and the quality of the individual animals and the skill of the stock feeder. A good cow or pig may thus be expected to return as human food from 14 to 16 % of the energy present in fodder; a full-grown bullock fattened at three years old only 5 to 6 %; a bullock fattened at two years old 8 to 10 %; and sheep, fattened as a rule when younger

(1) The protein content in bread is relatively small; on an average it does not amount to any more than about 7 %, no matter if wheat or rye bread. By adding the practically wholly digestible soybean-protein, which is of high biological value, it has however been possible to increase the protein quantity in bread but for technical reasons connected with baking processes until recently only a rather small amount of soybean-protein could be added. Lately, however, RUBNER has succeeded in inventing a process by which a larger admixture has been made possible and the total protein content in the bread raised to 14-15 %. By a daily consumption of half a kilo of soybean bread it is then, in other words, possible to supply the body with about 75 grammes of protein, a quantity enough for ensuring the daily protein requirements of the adult. Especially for rye growing countries this invention may, no doubt, become of the greatest economic and nutritive importance. A rye bread of this kind can be produced for the same or even a lower price than the ordinary rye bread. It is distinguished by a very good keeping quality, by palatableness, and two other properties, especially esteemed by the consumer of the present day, a greater whiteness and porosity than the ordinary rye bread.

(2) The endosperm of rye amounts to less than 75 % of the weight of the grain and to make a bran-free rye flour the extraction must usually go down to 66 %. The endosperm of wheat comprises about 82 % of the weight of the grain and a branfree flour can as a rule be secured with an extraction of 74 %. Comparable as regards the content of the bran are then, generally speaking, a wheat flour of 74 % extraction and a rye flour of 66 % and such flours are, as pointed out above, also found to be practically equally well digested and absorbed. It may, too, in this connection be of interest to point out that rye whole meal bread made from extremely finely pulverized flour according to the Klopfer method, shows itself as equally well utilized as whole meal bread of wheat from flour milled in the usual way.

than cattle, from 10 to 12 % (MIDDLETON). To feed rye, or any other grain, to the live-stock is then, in other words, as if 85-95 % of it were burnt in order to produce a small residue of meat and milk. It is often stated, however, that this waste is inevitable in order to produce the necessary animal protein, or that if home-grown grain were not used as feed, foreign feeding stuff would have to be imported in order to keep up the animal production. There can, however, be little doubt that meat consumption in a great number of the countries of western civilization at present is unnecessarily large both in the well-to-do and in other classes, and that for the health and economy of the people it would be desirable that animal husbandry should be more adjusted to the limits set by the available supply of forage crops and by-product feeding stuffs.

Farm animals are moreover far greater consumers than producers of protein. This fact is of course of no importance as long as they are fed on products which man cannot utilize — forage, domestic and other waste — and as long as the fodder crops are not cultivated on areas which would preferably be planted with crops of the cereals that must otherwise be imported. Fed on such products as grain or milk, even the efficient pig is a very expensive minus producer of protein, as will be seen from the following table, showing (according to HINDHEDE) the debit and credit of pig feeding.

Income and Expenditure in Pig Feeding.

	Protein Kg.	Fat Kg.	Carbohydrates Kg.	Calories (1000)
<i>Expenditure:</i>				
Grain, 265 kg.	31.8	6.36	182.85	939
Milk, skimmed, 450 litres .	13.5	0.45	22.50	152
	45.3	6.81	205.35	1,091
<i>Income:</i>				
Pork (edible portion) 60 kg.	6.6	19.8	—	211
Difference.	—38.7	+12.99	—205.35	—880
in %	— 85	+ 191	—100	—81

Only as regards the production of fat the conversion gives a positive balance but it is very expensive from a caloric point of view, since to produce 13 kg. of fat with 121,000 calories not less than 39 kilogrammes of protein and 205 kilogrammes of carbohydrates, i. e., taken together, 1,000,4000 calories, are required. The regaining of part of the wasted calories in the form of manure does not essentially alter the balance sheet (1).

(1) A more rational fat production would be arrived at by the cultivation of oil plants (rape, linseed and poppy-seeds). Whereas one hectare of barley converted into pork would yield only about 100 kg. of fat and 20 kg. of protein, sown with rape it would produce not less than 800 kg. rape oil and 1200 kg. fodder cakes. Fed to cattle these latter would result in 340 kg. beef containing 36 kg. of protein and about as much of fat. On one hectare it would then, in this way, be possible to produce nearly twice as much protein and nearly 8 1/2 times as much fat as if barley were grown on it and were converted into pork. Still better results would be arrived at if sunflowers were grown, which moreover thrive on much poorer soils. (BERG and VOGEL).

There can then be little doubt that for a country especially adapted for rye-growing it is uneconomic from the national point of view to export rye or to feed it to animals if wheat has to be imported to replace it. Evidently, however, the individual farmer is not to be blamed for this state of affairs, as he can hardly be expected to act as a philanthropist producing only foodstuffs in which calories are cheap. If the consumer in a rye-producing country elects to eat wheat or expensive pork, wheat and pork will be marketed; if on the other hand he selects the cheaper rye or potatoes or other excellent foodstuffs used in stock-feeding and consumes less wheat and pork, then more rye and potatoes, and less wheat and pork will be offered for sale. In order to teach people to modify their consumption habits along more economic lines, education and the disinterested promulgation of the knowledge of nutrition are required.

H. L.

(To be continued).

AGRICULTURAL LEGISLATION

Bills.

UNITED STATES OF AMERICA. — A Bill to authorize the Secretary of Agriculture to make surveys of representative farm areas each year in each State for the purpose of obtaining and publishing information upon the economic condition of agriculture throughout the United States and for other purposes. 15 April 1929. H. R. 28, 71st Congress, 1st Session.

[The representative areas referred to in the bill must accurately represent the various types of soil, topography and farming prevailing in each State and in selecting them the Secretary of Agriculture shall co-operate with the State agricultural colleges and experiment stations. The purpose of these farm surveys, is, it is stated, to obtain more comprehensive and detailed information concerning the utilization of land, the numbers and kinds of livestock, production on farms, stocks and disposition of crops, livestock and other farm products and to collect other facts having to do with the economic condition of agriculture throughout the United States. The information is to be collected by farm-surveys agents who are entitled to the collaboration of owners, managers and tenants and other persons connected with the farms. The information is, however, only to be used for the statistical and economic purpose for which it was supplied].

UNITED STATES OF AMERICA. — A Bill to authorize the creation of organized rural communities to demonstrate methods of reclamation and benefits of planned rural development. 29 April 1929. S. 814, 71st Congress, 1st Session.

[The bill proposes the acquisition in certain States by the Secretary of the interior of swamp, cut-over, neglected, abandoned or poorly farmed land sufficient to create at least two hundred farms and farm workers' allotments, and provide for the reclamation, development and settlement of the land. The farms are then to be sold at a sum sufficient to cover the cost of the above operations, plus 10 % for unforeseen contingencies, the purchase price to be paid at a date not exceeding forty years from the date of sale with interest at 4 % per annum. The Secretary may also make advances for making permanent improvements].

UNITED STATES OF AMERICA. — A Bill to promote the development, protection and utilization of grazing facilities within national forests, and for other purposes. 16 May 1929. S. 1190, 71st Congress, 1st session.

[This Bill proposes to authorize the grant by the Secretary of Agriculture of the free grazing of livestock kept for domestic purposes in national forests. Preference shall be given when practicable to homesteaders present occupants of the range who own or control improved ranches or who have provided water for livestock grazed within the national forests. The rate of grazing fees is to be maintained at the 1928 figure until 1 January 1939. In the event of depletion or destruction of forage by drought or of destruction of or injury to livestock the Secretary of Agriculture may grant extension of the period of payment or reduction or cancellation of the fees payable. The Bill envisages the constitution of local grazing boards to co-operate with the Secretary of Agriculture in the administration of the Bill and to hear appeals from applicants for grazing privileges against decisions taken by forest officers].

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INTERNATIONAL REVIEW OF AGRICULTURE

PART II

MONTHLY BULLETIN

OF

AGRICULTURAL ECONOMICS AND SOCIOLOGY

MARKETING OF AGRICULTURAL PRODUCE

The World's Wool Markets (*Conclusion*).

UNITED STATES (1927 production 328,137,000 lbs.). — Although a good deal of wool is produced in the United States the methods of marketing obtaining there are old fashioned compared with those employed in Australia or South Africa. Preparation for market is particularly poor, most of the wool being marketed without any attempt to separate the locks, skirtings and burry wool from the better part of the fleece; and the resultant flat price for all classes of wool gives the farmer no incentive to improve the quality of his wool.

That producers have realised that they need some form of protection in marketing their clips is shown by the growth of co-operative societies for the purposes of marketing wool in bulk and regulating its supply on the market. In 1926 the U. S. A. Bureau of Agricultural Economics issued a report on Co-operative Marketing of Wool, in which report they traced the development of co-operative marketing from its beginnings in small local organisations for the benefit of a few farmers to the large-scale regional pools that sprang up at the end of the War when the Government took control of the 1918 wool clip. There are now 91 co-operative wool marketing associations with a total membership of 50,000. The Bureau of Agricultural Economics classified the associations under the five headings of regional pools, independent local associations, sales agencies, associations handling wool as a secondary consideration, and educational associations.

The regional pools handle the greater part of the material, and are the only kind of organisation to need description here. These are associations which operate over a large area and which receive the wool from their members, grade it and sell it direct to the mills or to other purchasers, returning to their members the average pool price for the grades of wool sold. Large-scale regional co-operative marketing organisations exist in all the chief wool-growing states.

Texas, the largest wool-growing state, has only one centralised association, with a few local societies and some organisations that handle wool only incidentally. Montana, in 1926, had two local associations for the marketing of wool. Wyoming, which is next in importance as a wool producer, has, according to Mr. J. A. Hill of the University of Wyoming, only one large co-operative organisation — the Wyoming Co-operative Association, with its headquarters in McKinley, Wyoming. The Association secures the wool from growers in Wyoming and ships it to the National Wool Exchange in Boston. This latter is a brokerage company, charging a

brokerage of 2 ½ cents per pound, the charges for storage and grading being additional. The National Wool Exchange will sell the wool sent by the Wyoming Association and remit the receipts to them to pass on to the growers of the wool. The Co-operative Association charges nothing for its services but takes a margin on the interest received for money lent to growers before the wool is sold. The money is advanced by the Federal Intermediate Credit Bank to co-operative organisations and is secured by warehouse receipts for wool. This practice is general among the various co-operative societies, the National Wool Exchange doing the actual selling, while the wool is collected and advances are made to growers by the local associations.

California has one small organisation in the north of the state which is the Northern Californian Wool Warehouse Company. This is a stock holders' concern and is co-operative only in the sense that all the stock is owned by wool growers whose primary purpose is the sale of their wool. The Company leases warehouse space, where the wool can be graded if members prefer. The grower contracts to deliver to the company all the wool grown by him for a period of five years. After delivering the clip to the warehouse, he is given the choice of three methods of disposal: he may sell at any time to any buyer; he may allow the warehouse company to sell his clip in the original bag at a price determined either by the grower or by the warehouse official; or he may have the clip graded and then sold by the company at a price deemed fair by the management. The company employs specialists to advise the grower as to the shrinkage of his clip and its probable value, and in the past few years the annual volume of business has been in the neighbourhood of one million lb. of wool.

The Pacific Wool Growers Inc. was organized for the orderly marketing of wool produced in Oregon and other states, including California. This association now has members in eleven western states and in Alaska, and in 1925-1926 marketed 6,097,159 lb. of wool, chiefly direct to the mills. In the case of this association members must enter into a five year contract to sell their produce through the society. Utah, although producing a very large quantity of wool, is not well provided with local or central associations, there being only one wool pool which collects and markets wool, without grading, in the original bags. Growers in this state as well as in Oregon market through the Pacific Wool Growers Inc.

The most important producers' association, both in point of size of membership and of amount of business transacted, is the Ohio Wool Growers' Co-operative Association. This organisation is a joint stock company, the capital being mainly subscribed by wool growers who are members, and functions as a sales agency for wool producers in states other than Ohio. Members enter into a continuous contract with the society but may cancel the contract in any one year, being allowed to withdraw for a year and then return. Many of the regular members object to this practice as they say that it prejudices the chances of the wool marketed through the association. In 1928 the Association reported that feeling was very strong in favour of making a member who had ceded in one year remain outside the Association for another year, as a preventative measure against outside sale in competition with the Association. The Association concentrates its wool at Wheeling, Virginia, where it is sold by a dealer on a commission basis. A large part of the wool is sold direct to the mills. The Association, in the year 1920, bought a warehouse in Columbus, Ohio, and formed a subsidiary company to run the warehouse. Wool is received at the warehouse, graded according to condition, length and fineness of fibre, and stored there for inspection by buyers. Wool from the various growers and states is pooled and when the sales are complete, returns are

made to growers in Ohio and the Indiana and Michigan wool pools for which the association also acts as agents.

Besides its marketing work the association has carried on educational work among its members in order to help them to produce better wool and to prepare their wool for market in such a way as to bring the best possible price. The Association also arranges to sell wool all the year round in an attempt to meet the fluctuating demand of the mills, and to give the industry the advantage of being able to buy its raw material at the time it is needed while avoiding a glut on the wool market just after the shearing season. The Association has been singularly successful in creating confidence in itself on the part of its members and of its customers, and also in finding ways to provide cheap storage. In 1925, the management announced that a charge of 2.75 cents per lb. had been enough to pay for storage, labour, insurance and sales, and also for the cost of collecting the wool at the local stations. This amount was not greater than that required by small local dealers who provided no services of grading and storing.

The National Wool Exchange in Boston is a purely selling organisation. A grower can consign his wool direct to the Wool Exchange if he does not require an advance upon it, and the Exchange will forward the proceeds of the sale, less the usual charges, direct to the grower. It is more usual for the wool to be sent to the Wool Exchange by one of the many co-operative marketing associations which exist for the purpose. These associations then use the receipts given by the Wool Exchange as collateral security in borrowing from the banks in order to make advances to individual growers. Some of the societies have no capital and are formed afresh each year to carry out these dealings with the Exchange and the banks. At the Wool Exchange the wool is examined to see whether it is of sufficiently uniform character to allow of it being sold in the original bags. If it is at all mixed it is put into lots with other wool of the same character, as the Exchange finds it better to sell the wool according to the demand from the mills rather than to market the whole clip at one time.

Co-operative marketing covers very little of the total amount of wool produced in America, sale to a dealer who later sells to a manufacturer being the usual procedure. Sale by auction is not popular, though a wool market in New York is run on those lines. Farmers in the Eastern States and in the Mississippi Valley sell to local dealers, those in the West consign to commission houses, with the exception of those that sell through a co-operative society, and growers in the Middle West sell direct to the local mills.

SOUTH AMERICA (Total production in 1927 was 552,736,000 lbs.).

Argentina (1927 production 331,000,000 lbs.). — In all South American wool-producing countries, of which Argentina is the greatest, wool is grown either on very large ranches or in very small quantities by wandering Indians. Where the wool is produced on a very large scale it is usual for the grower to sell his wool by consignment to a "consignatario", who is a wool selling broker working on a commission basis. These "consignatarios" collect the wool in central markets where they sell it to buyers who are local dealers. Although almost the whole of the Argentine clip is exported, no foreign buyers are allowed on the South American markets; occasionally an Argentine dealer may act as an agent. As may be imagined bargaining between the two sets of local dealers is intense, both sides being experts in determining the scoured value of the wool which is marketed unscoured and unclassified. After purchase, the buying dealer arranges for sorting, skirting and sampling, and for export to one of the foreign markets or to a manufacturer.

The Continent is the chief market for South American wools, taking, on the average of the years 1921-1926, 65.5 %, of the Argentine clip, while the United States took 14.3 % and the United Kingdom 18.5 %. Practically the whole of the exported wool passes through Buenos Aires or Bahia Blanca, over one-third of the total wool production being sold in the Central Produce Market in Buenos Aires. A quantity of wool, which may be roughly estimated at 20 % of the whole clip is exported directly by big wool firms who purchase in the interior, where they also carry out grading and sorting operations. Growers in Tierra del Fuego occasionally ship direct to London for sale on the London Wool Exchange.

It is possible that the predominance of Continental buyers for South American wool is due to the fact that the wool is somewhat coarse in character, there being no production of pure merino. Many Continental mills are designed especially for the use of the coarser kinds of wool and so find in Argentine wool a suitable raw material. There has been a noticeable improvement of late years in the quality of Argentine wool, which has made it more suitable for use in English mills.

Uruguay (1927 production 130,000,000 lbs.). — Sheep-breeding in Uruguay is on the increase, as abnormally bad conditions are ruling on the European beef market and ranch owners are turning to sheep instead of cattle. At the same time there is a noticeable improvement in the type of wool produced, as much as 15 % of the 1927 clip being pure merino.

All the wool produced recently in Uruguay has been sold locally, experts stating that not a single lot was exported privately in 1927. Growers consider the local markets the most convenient and remunerative point for sale. Continental purchases of Uruguayan wool have increased every year since the War and have now almost returned to the pre-war figure of 86 % of the total production. Russia has begun to operate on the South American market for the first time in recent years and there are good prospects of expansion in sales to this country.

Chile, Brazil and Bolivia (1927 production 35,000,000, 26,386,000 and 12,500,000 lbs. respectively). — The majority of farmers in these countries treat their own wool and sell locally to dealers acting as agents for Continental buyers. Large-scale wool production is in its infancy, and there are therefore no co-operative organisations for the sale of wool. In many cases the wool is grown by Indian shepherds and it is usually alpaca, llama, and oveja rather than the crossbred wools produced in Argentina and Uruguay.

Peru (1927 production 10,000,000 lbs.). — Peru is regarded by some as the dark horse of the wool industry where future production is concerned. She has immense areas of possible pasture land, with a climate suitable for the production of fine wool. At present the exports from Peru consist chiefly of alpaca, llama, and the very valuable vicuna hair. Peruvian sheep wool is coarse and hairy, but the Government is setting up model farms with Scottish shepherds and imported rams in an attempt to breed finer wool.

As regards marketing, the wool is usually sold locally, either to a manufacturer — most of the Peruvian wool being consumed at home — or to a dealer at a local dépôt. Sale at country fairs is quite common, but the method of sale is individual bargaining and not auction sale.

It sometimes happens that an Indian without land but having sheep approaches a landowner for grazing privileges. If he grants this permission, the landowner has the right to purchase the whole clip at shearing time, if he so desires, but is in any event entitled to a portion or to its equivalent in kind. Again, in certain districts in the Sierras, there are what are known as communities. From remote

times the land has belonged to the Indians and the products derived from these lands — one of the principal being wool — are sold to dealers, and the value obtained is divided equally between the Indians. This is the only form of producers' co-operation extant in Peru, and is certainly a type of co-operative organisation, although obviously most primitive.

EUROPE (Total European production in 1927 was 809,419,000 lbs.). — The conditions of production on the Continent are similar to those in the British Isles. All European countries, with the exception of Russia, are too populous to allow of sheep farming on the ranch system practised in countries like Australia and the United States. Sheep are therefore kept in small flocks, either as one branch of the activities of a mixed farm, or as the sole means of livelihood of mountain dwellers. The usual method of marketing, particularly in Eastern and Central Europe, is by sale to an agent who visits the farm, inspects the wool, suggests a price and arranges for carriage, washing, and grading.

The various countries are discussed in order of the magnitude of their production, no country being described unless the annual production exceeds ten million lb.

Russia (1927 production 237,136,000 lbs.). — The Russian wool textile industry is reviving after the Revolution and is developing on lines very different from those which it followed in pre-war years. The policy of the Union of Soviet Socialist Republics is to promote industries by means of state trusts, so that there is a trust for breeding sheep, another for importing wool and a third for manufacture and so on. Formerly, Russian wool was used largely in the peasant industry, for which the autumn wool clip was the chief raw material, and the town industry produced only heavy woollen goods. To-day, in spite of the growth of state-controlled manufacture, which has been very great, Russia cannot supply her own wants in the way of woollen clothing.

The U. S. S. R. is encouraging sheep-breeding, and a large state monopoly under the name of "Ovesvod" is importing sheep from Germany and America with a view to the production of finer wool. It is estimated that there are about 121,260,200 sheep in Russia but that not more than 400,000 are merino or fine woolled sheep. Farms are operated on a large scale by the Sheep Raisers' Corporation — "Ovesvod" — which owns more than 459,000 acres of land. This corporation proposes to sell sheep to the Unions of Agricultural Co-operation and to peasant shepherds who will be given credit for five years, by this means to improve the quantity of the wool produced in Russia and enable her to expand her wool industry. She has large areas, especially in Southern Siberia, which are suitable for sheep-rearing.

Home production is at present quite inadequate to supply the mills, the production of which has increased by nearly 32 % since 1925, when it was already greater than the pre-war output. Much capital has been invested in the textile industry and future production will take place in very large mills which have attained marked rationalisation in their productive methods. Output is expected to expand in the near future through the adoption of a seven hours' day, in conformity with the Manifesto of the Central Executive Committee of the U. S. S. R., together with the three-shift system. The experiment has, as yet, only been put into operation in cotton mills but is expected to spread to wool production when it will lead to a further increase in the demand for raw wool. The Russian Textile Import Co., known as "Sherst", which is responsible for the supply of wool to the home mills, buys wool on a large scale in the London and Australian markets, and also imports semi-manufactured goods from Yorkshire.

The actual marketing of home-grown wool has been organized by the People's Commissary for Trade since 1924. A first attempt was made to fix the price of the spring wool clip as this provides material for the heavy woollen industry, while the autumn clip is chiefly worked up by peasants. It was found that the effect of regulating the market for the spring clip was to force the cottage industry to use early rather than autumn wool, thereby reducing the amount available to the town manufacturers. Autumn wool was therefore included under the scheme for regulation, but it was found that a policy of fixed price was inapplicable in this case. Absolute control of the market has now been assumed by state associations whose object is to weaken the position of peasant weavers. For the spring clip a price has been fixed, while for autumn wool — the material of the cottage industry — a maximum limit only has been fixed. The general opinion is that price-fixing has proved beneficial to the wool textile industry, though breeders will need protection in the form of a certain amount of fluctuation in the price of early wool if the decline in the price of autumn wool is not to injure them.

All these considerations apply to the production of wool in Russia in Asia. This country is a large wool-growing centre, producing in 1927 79,500,000 lbs. of coarse and carpet wools. There are large areas which would provide grazing for sheep should the U. S. S. R. attempt to expand production further.

Spain (1927 production 104,500,000 lbs.). — Spain is the home of the merino sheep, and still produces a large quantity of wool annually. Sheep are kept in the mountainous districts where communication is difficult, and this may account for the fact that no definite information is available on Spanish marketing. It is known that in the Barcelona area agents visit the grower and buy wool on the farms; in the Estremadura district the wool, which is merino, is sold at auction sales.

Italy (1927 production 55,800,000 lbs.). — The Italian wool textile industry is rapidly developing, although the revaluation of the lira acted as a check to export operations in the past two seasons. Home consumption has been well maintained and the export trade is growing. Although the Italian industry imports a great deal of its raw material, Italy herself produces a considerable quantity of wool, some of which is popular in England because of its whiteness and softness. The reason for the rapid growth of the Italian wool industry, says Signor Edmondo Bassanesi, a prominent figure in the Italian wool trade, is the recent introduction of controlled hot steeping. Production is chiefly on the small flock basis and sales are still made, as a rule, through an agent who visits the individual producer, making partial payment before shearing. These agents sometimes are sent by manufacturers who buy their raw material direct from the producer. One of the very latest developments is the institution of auction sales in Foggia and Rome. As lately as June 1928 the first wool auction sale took place in Rome, when 47,187.10 kg. were offered for sale. These sales are to continue and are arranged by the Camera Laziale della Lana, an organization of wool merchants, with a view to securing a better disposal of the Italian clip as well as the resale of wool bought in Australia and elsewhere. This system of sales should replace the old method of buying of wool by General Warehousemen in Rome, Foggia, and Frosinone for sale to dealers.

The Associazione Fascista dell'Industria Laniera Italiana states that there are now several co-operative societies for collecting the small clips of individual farmers and marketing them as a whole, but that these societies possess no special features. A new Fascist corporation of pastoralists aims at establishing an organized market for wool, and has gained the support of merchants and manufacturers. They will

be faced with many difficulties in the way of the traditions of the market and confidence of the growers, but the indications are that the movement will be well supported and will go forward.

Rumania (1927 production 55,000,000 lbs.). — In Rumania since the War there has been a great recrudescence of co-operative enterprise. The Government, after redistributing all holdings of land, is encouraging attempts at scientific production. Numerous co-operative societies exist for the marketing of cereals, the chief production of country, but according to the Rumanian Government authorities, wool is produced from scattered flocks on the mountains, and the clip is sold to agents who visit the farmer or small-holder, the agent, in many cases, collecting the wool. Sometimes the farmer takes his wool to the local dépôt of the merchant or dealer, but the essential of the sale is the same. The method employed is individual bargaining and payment is made in cash. A merchant in most cases arranges for the collection of his purchase, and washes and grades it himself prior to export. No auction sales are held and no co-operative societies exist for wool marketing only.

France (1927 production 47,447,000 lbs.). — French wool is nearly all marketed through co-operative organisations. These are centred throughout the wool producing areas in Arles, Lucon, Evreux, Troyes, etc. The quantities handled by them vary from year to year and from Syndicate to Syndicate according to their size and to whether they serve a scattered or concentrated population of flock-masters. At Arles in 1927 the co-operative society handled 100,000 kg., at Troyes 150,000 kg., at Lucon 50,000 kg. The organisations of the societies are equally varied. In some cases the Syndicate takes complete control of the wool produced by its members, preparing it and storing it for sale in its own warehouse, as at Arles; in other cases the members keep their wool in separate lots, provide carriage and other expenses of marketing, as at Nogent.

Methods of sale vary. The favourite method is by auction sale in the central markets such as Dijon, Orleans, or Arles; but private sales are sometimes arranged by co-operative societies on tender from manufacturers in Troyes and Chartres. All growers are paid in a lump sum for their wool on sale. There is an interesting exception to this rule in the co-operative society of Reims, under which organisation the owner is advanced 50 % on an average estimated value of the wool after washing and grading by the company, and at the end of the season is paid the remainder of the price fetched by the wool. The Reims system is now going out of fashion, and the general trend of the industry is towards sale by auction in a central market for the district.

The Syndicat des Producteurs de Laines de l'arrondissement de Chartres has for its object the general care of the interests of its members in agriculture and in wool marketing in particular. It provides for collection and storage of wool in case of need. Members pay a subscription of 15 fr. a year, and, in addition, contribute to the pooled costs of administration. On the decision of the Committee advances can be made to a grower for wool sent to the Syndicat for sale.

French wool is almost entirely utilised in the home industry. Manufacturers buy in central markets where a considerable quantity of the wool grown in the French colonies in North Africa is also marketed. Foreign wool and skins coming into France are subject to a considerable duty.

Germany (1927 production 38,500,000 lbs.). — Wool production is not regarded as an important German industry, only 5 % of the wool used in the wool textile industry being produced at home. It was formerly usual for wool to be sold out of hand to an agent, but recently sale by auction has gained ground in the good opinion of the growers. Auction sales take place in Berlin, Halle, Güstrow,

Hannover and Ulm, but these only account for 16 % of the total clip, the remaining 84 % being sold through two large firms, the Deutsche Woll-Gesellschaft m. b. H. in Berlin and the Deutsche Wolltreuhand-Gesellschaft in Ulm. The former is a limited liability company which sells on a commission basis, dealing with the north German wool, while the latter is a co-operative union of sheep breeders which sells by auction the wool produced in South Germany. Wool is only classified roughly by growers, the buyer undertaking detailed sorting after purchase.

Jugo-Slavia (1927 production 37,400,000 lbs.). — This country is hampered in the attempt to form any uniform system of marketing by the fact that it is in reality three nations, the Serbs, Croats, and Slovenes. Most wool growers sell direct to agents or to the local general store which may be a co-operative organisation. Many of these small societies exist in rural areas, but there are none of any importance which sell wool, being chiefly store societies like that of Bukovec. Over 70 % of the farm produce of the country is dealt with by such societies, and it is probable that wool is also included among the products sold.

Only 5 % to 10 % of the Jugo-Slavian wool clip is exported, much of the poorer wool being retained to be worked up by the peasant growers themselves. Besides possessing a flourishing cottage industry the country is developing a large town industry which uses a great deal of home-grown wool, bought through travelling agents, and which also imports considerable quantities.

Bulgaria (1927 production 22,000,000 lbs.). — All wool grown in Bulgaria is consumed by home production, and in addition a large quantity is imported. All flockmasters sell direct to agents of merchants or to manufacturers who prefer to buy from the grower. The buyer pays cash and makes all arrangements for the cleaning and carriage of the wool. There are no central auction sales and no co-operative societies for wool marketing.

Greece (1927 production 17,500,000 lbs.). — Greece consumes more wool than she produces. A very small quantity is exported annually to Jugo-Slavia, France, Italy and Belgium, but a larger quantity is imported, chiefly from Great Britain. The sale of indigenous wool is carried out by private treaties between the merchants established in the various centres and farmers, the former visiting the farms and determining a price by bargaining with the grower.

Hungary (1927 production 16,500,000 lbs.). — Only one-third of the total amount of wool produced in Hungary is consumed in the country, the remainder being exported. Shearing usually takes place in May and June but most of the clip is sold in the previous December. Small producers deal with the merchants through travelling agents who visit the farms, though they sometimes make purchases at country fairs. Wool is sold for cash and the producer usually requires payment in advance. Owners of large estates generally sell their wool direct to wool merchants or manufacturers, the business done through agents amounting to nearly one-half of the total. Besides direct sales to wholesale merchants in Budapest and in the country, about 800,000 kg. are annually sold by auction in Budapest. Only a small part of the wool that is auctioned is delivered by the big estates, the greater part being brought in by the wool merchants. Sale is not by sample but by wholesale inspection of the material offered.

ASIA. — Among wool-growers in Asia the instinct for the individual bargain is very strong. Auction sales are rare, though there are several in British India, the usual method being sale to the agents of large merchant houses.

Russia in Asia (1927 production 79,500,000 lbs.). — Methods of marketing and production are similar to those in Russia in Europe.

China (1927 production 60,000,000 lbs.). — Wool is produced in the northern districts of China, in Mongolia and Manchuria. The wool-producing area is spreading; the chief centre, Hailar, is of recent development as the Barguts have only just begun to shear their sheep. The shearing may endanger the health of the flocks in the severe winter, but measures have been taken in the way of provision of shelters and of veterinary surgeons to counteract this possibility. The wool produced is mainly carpet wool, the amount of this wool used in the United States carpet mills in 1927 being 48,000,000 lbs. The North Manchurian organisation of a world-wide British concern has successfully crossbred some Romney Marsh sheep with the Mongol animal, gaining a much heavier fleece.

British and American firms in Tientsin buy through their agents in Hailar, which is the wool and produce market on the Chinese eastern railway trunk line. The army of agents spreads over the Mongol summer encampments bartering and buying. The medium of purchase is lump silver, as the Mongols are unaccustomed to paper money or to coin. The wool comes not only from the district immediately round Hailar, but even from districts near Urga, the capital of Outer Mongolia. The Railways Commercial Department has established a British hydraulic press at the wool-washing plant at Hailar, and is advertising the east Chinese route as much as possible. It has also extended the motor road to Urga. This expansion is due to Russian influence which is being strongly manifested in the Mongolian wool market. The eastern Chinese route connects with the Russian port of Vladivostok. Mongol officials set up a determined monopoly in Barga, encouraged by Russian agents, which was only broken by the defection of the "Russian Soviet Citizens" who worked against their colleagues. Another large Russian concern is the Soviet Outer Mongolian Co-operative Society, Urga, which is an organisation of dealers. English and American buyers have now to compete against the Russian combines, and as a result the price of Mongolian wool has increased.

Irak (1927 production 24,900,000 lbs.). — The wool production of Irak can be divided into three areas with a centre in Baghdad. In the north area the sheep are Awassi and Karadi, in the country between Baghdad and Basra they are Arabi, and round the Persian Gulf a cross between the Awassi and Arabi. Most of the wool goes through Baghdad and the greater part of this wool is handled by one large wool exporting firm, which buys direct from the desert tribes by means of travelling agents. The wool is collected on the banks of the Tigris, where it is washed in the river and then dried in the sun. When dry it is shaken over wire grids to eliminate any remaining dust; the fleeces are rolled with the detached pieces in the middle and are baled and pressed and weighed on modern lines. The labour employed is entirely native, but it is subject to most careful supervision at every stage of preparation of the wool. The fleeces are baled without any sorting, as native labour could not be trusted to grade properly. All loose pieces detached in the washing are baled with the rest of the fleece. Sales are on a clean-scoured basis and shipment is made direct to the mills and the purchaser opens a credit for the value of his order based on an estimated yield of 85 %. When he has scoured the wool he declares the actual weight of clean wool received and the balance either way is paid over.

Persia (1927 production 18,000,000 lbs.). — Although Persia covers a large tract of country climatic conditions are such that most of the wool produced is carpet wool, which is made into rugs and carpets for export. Marketing of the wool and of the finished carpets is carried out through native merchants and their agents by means of individual bargaining.

Syria (1927 production 12,000,000 lbs.). — One large exporting firm handles

80 % of the Syrian clip, one buying either directly from the desert tribes or from small firms who buy at low prices from the Bedouins before the shearing begins. Sales are effected locally by private treaty and occasionally by auction. A certain quantity of greasy wool is imported from neighbouring countries, such as Arabia and Turkey in Asia, and is re-exported. Wool is packed either in the grease or washed, and is exported to America, which is the largest buyer, and to Italy and France. Syrian wools are much used in Italy for making mattresses, and in America for carpets and mattresses.

SUMMARY. — It appears from a detailed consideration of the various wool-producing countries that the more advanced industries market their wool by means of central auction sales. This method is found to lead to the determination of a price satisfactory to both buyers and sellers, as it gives to both the opportunity to make comparisons between the many types of wool offered in the one centre. In countries where sheep are still kept on the small flock system by primitive shepherds marketing arrangements are made by merchant houses who buy through their travelling agents. The wools marketed in this way are the coarse and carpet wools, the finer wools coming from carefully selected flocks in countries which produce on the large flock system. In Australia and in South America, the largest wool-producing countries, sale is almost entirely by auction in coastal centres, arrangements being made by brokers selling either on a fixed brokerage or on a commission basis. South Africa is following suit and has established large auctions in the wool selling centres.

The services of co-operative associations in providing carriage, grading and storing facilities are most valuable, especially where it is not possible for the grower to superintend personally the sale of this clip.

In Great Britain and on the continent of Europe selling by co-operative methods is increasing in extent. From the farmer's point of view many advantages are to be obtained from such sale. Though the individual farmer in a particular year might find it better to sell his clip privately, over a period of years the average price obtained tends to be higher when sale is through a properly managed co-operative society. The chief disadvantage from the farmer's point of view is that payment has to be deferred for some time. In most cases the society overcomes this difficulty by making an advance of 50 % or 70 % of the estimated value of the wool. This action, in its turn, increases the need for financial strength on the part of the association. This probably accounts for the drift towards larger societies organized on the lines of joint stock companies whose shareholders are usually the wool growers, and towards a combination of a selling co-operative society with a credit bank, which is a definite movement. The power to hold stocks until the market is at the most favourable point another advantage of marketing co-operatively especially when advances are made as loans to the farmer.

Co-operative societies are exercising more and more an educative function towards their members, and in this respect wool buyers find them an advantage to themselves. The manufacturer can use the society as a means to explain his wants to the sheep grower, to tell him why, for instance, tar branding is harmful to the fleece in manufacture. It is felt more and more that close contact between grower and manufacturer is essential to the recovery of the industry and producers' organisations offer a medium for contact.

It has been said that those farmers who sell their wool through staplers obtain a higher reward for it than do those who sell through a co-operative society, although the aim of the society is to eliminate the middleman. It is obvious that the monet-

any advantages of selling through a co-operative organisation depend on the efficiency of the concern. In the case of a badly managed society, or even of a society which has not expanded to its size of maximum efficiency, the prices received may fall below those obtained by sale through private treaty. Also, it is probable that the owner of a poor clip may obtain a higher price for it in a private bargain than the co-operative society would secure for him in a public sale.

One must balance the statements that co-operative marketing societies have so far proved costly failures — and large numbers of them have failed — and the fact that Australia and New Zealand which produce the best wool in the world do so without any form of producers' co-operative organisation against the equally important facts of the improvements that are admittedly due to co-operation in the wool trades of Canada, South Africa and the United States. Co-operative marketing is a new departure and must be given time to justify itself.

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LAND SYSTEMS

The Agrarian Reform in Latvia (*Conclusion*).

III. — RESULTS OF THE AGRARIAN REFORM.

I. *Distribution of Rural Ownership and Social Structure of the Rural Population.*

When the first part of the legislation on agrarian reform was adopted the State was already in possession of half the estates which were brought under expropriation. The total area of the lands which fell into the State reserve of agricultural lands is 3,680,000 hectares, 81 per cent. of which are manorial lands, 17 per cent. Crown lands and 2 per cent. parish lands. About 12,000 farming centres and farm tenancies depending on these have been expropriated. In 392 cases, the former owners have kept 100 hectares, and in 857 cases, only 50 hectares, making in all 85,000 hectares. In addition some 200,000 hectares of land have been ceded to Latvia in accordance with the peace treaties and agreements for frontier rectification, bringing the whole available extent of land up to 3,900,000 hectares or nearly. About 2,200,000 hectares consisting in forests and waste lands have remained in possession of the State, while 1,738,000 hectares have been judged suitable for distribution. On 1 January 1928, the number of hectares already assigned was 1,490,000 or 86 per cent. of the available lands. The following table gives the supplementary details on the origin of the expropriated lands :

Character of lands	Private estates	Crown lands	Parish lands	Total
	ha.	ha.	ha.	ha.
Arable lands	1,409,501	188,782	56,456	1,654,739
Forests	1,128,446	362,374	6,063	1,496,883
Waste lands	447,902	76,578	4,311	528,791
Total	2,985,849	627,734	66,830	3,680,413

From 1919 to 1922, lands were distributed to the extent of 925,000 hectares, or nearly two-thirds of the total area assigned up to 1 January 1928. In the course of the following years, the work has gone on somewhat less rapidly. The minimum

was reached in 1925, in which year only 76,000 hectares were distributed, but in 1927 the area of lands assigned once more increased and the figure of 100,000 hectares was reached.

On 1 January 1928, the main results of the agrarian reform were established as follows :

Type of farms	Number	Total area
New farms	64,259	961,503
Former farms rented	6,780	238,690
Units formed for other purposes	28,608	290,374
	99,647	1,490,567

The former farms rented only represent a fifteenth of the number of units assigned, but nearly one-sixth of their area.

The lands assigned to the farm holdings must not be separated from one another, but should be grouped in a single holding constituting an economic unit. It is only in special cases that it is permitted to have outlying lands in particular meadows. The object of the redistribution of the village lands is to constitute economic units. But, in view of the fact that before the division of the lands the villages possessed a certain number of common holdings in the form of outlying lands, particularly in meadows, it follows as a result that one-third of the holdings so constituted have outlying lands.

The majority of the former holdings are very extensive, the average area being 35 hectares. Two-thirds of the new holdings are from 15 to 22 hectares or even more ; in other words the area is such as is considered essential if a farm is to maintain itself as an independent enterprise ; one-third of the new holdings are however less than 15 hectares. On the outskirts of the towns and along the main roads, a number of small holdings have come into existence which are too small to ensure the existence of a family ; the idea has been that the owners of these holdings could obtain a supplementary income from occasional occupations.

Although the former class of peasant farmers always form the backbone of Latvian agriculture, there is no doubt that the future development of the new holders of lands is of the utmost importance for the country.

With the carrying out of the agrarian reform, the social structure of the rural population of Latvia is considerably modified. The number of *independent farms* has increased in a remarkable way and the number of agricultural workers has diminished. Many of them have become owners of independent holdings constituted by themselves.

Before the war there were 2,500,000 inhabitants of the territory which now forms the Latvian State. In 1920, the population was not more than one and a half million, but in 1922 it exceeded 1,800,000 and in February 1927 it was 1,870,000. The number of persons dependent upon agriculture for their livelihood was 1,056,000 at the date of the agricultural census of 1923, and in 1925 it was about 1,082,000. The 1923 census showed the number of persons who had benefited by the agrarian reform as 119,000.

2. Intensification of Cultivation and Scientific Management of Agricultural Work.

Although the agrarian reform only dates back a few years, the new holdings have already in many respects reached the same level as the former holdings, thanks to the efforts of a number of ex-service men and agricultural instructors who have

taken up the new holdings and have applied scientific methods to the work of the farm. In this way the example of better cultivation has been set. The agrarian reform has greatly advanced modern arable cultivation in Latgale, a backward part of Latvia. With a view to intensification of crops and to a scientific organisation of work, the majority of small holdings of Latgale have been enlarged by the addition of supplementary lands.

The agrarian reform has brought about a complete disappearance of extensive farming, and it has more than doubled the number of small agricultural holdings ; its primary object, to prevent the existence of holdings too small to ensure the maintenance of a family, has been to a large extent realised.

The percentage utilisation of arable lands before and after the reform is as follows :

Years	Area of sowing	Clover and forage crops	Fallow	Total extent of arable land
1903-13	61.22	15.00	23.78	100
1923	64.88	16.43	18.69	100
1927	64.88	18.68	16.44	100

Enquiries have recently been initiated into the methods of agricultural work employed, and a propaganda is being instituted for scientific management in work. Considering that in consequence of the agrarian reform the arable lands have been appropriated to new farms of less than 15 hectares and that as regards expenditure of energy and time, a more economic utilisation of labour is achieved on these holdings than was on the large parcelled out estates, it must be admitted that the execution of the agrarian reform has been the means of ensuring a more rational state of things.

Joint utilisation of farm machines has considerably increased, particularly in proportion to a corresponding increase in the earnings of agricultural workers. The nominal wages of farm labourers have risen since the war as a consequence of the decrease in the number of workers on the land, it being understood that the agrarian reform has consisted in a transformation of the former workers into owners of farms. In 1926, agricultural machines have been imported to the value of 6.3 millions of lats, a sum which represents 2.4 per cent. of the total of imports.

3. *Development of Industrial Agricultural Enterprises after the Agrarian Reform.*

Mills :

In 1921	655	undertakings with 1921 workers
» 1922	622	» » 1731 »
» 1923	634	» » 1846 »
» 1924	741	» » 2476 »
» 1925	758	» » 2226 »

Distilleries, etc. :

In 1921	12	undertakings with 262 workers
» 1922	34	» » 637 »
» 1923	39	» » 676 »
» 1924	47	» » 703 »
» 1925	46	» » 729 »

Starch and syrup industries :

In 1921	2	undertakings with	84	workers
" 1922	4	"	126	"
" 1923	11	"	117	"
" 1924	16	"	150	"
" 1925	24	"	196	"

Breweries :

In 1921	12	undertakings with	186	workers
" 1922	14	"	368	"
" 1923	21	"	620	"
" 1924	33	"	825	"
" 1925	31	"	681	"

Dairies :

In 1913	76	undertakings	In 1923	319	undertakings
" 1914	88	"	" 1924	367	"
" 1921	18	"	" 1926	422	"
" 1922	84	"	" 1927	449	"

4. Land and Agricultural Credit.

During the war Latvia was completely devastated, being either part of the front or a region of cover, according to the fluctuations in the actual fighting zone. Nearly 22 thousand farms were entirely destroyed. The extent of the areas sown had greatly diminished owing to the havoc wrought by the engines of war and by the construction of trenches ; the buildings had been wrecked or burnt to the ground. In 1920 an immense work of land settlement, the application of the agrarian reform, was undertaken. Mortgage credit was essential both for the repair of the former farms and for the establishment of new holdings. This credit was given by the State Land Bank founded in 1922. Up to the end of 1927 this Bank had lent 110 millions of lats to agricultural undertakings as well as to undertakings connected with agriculture. In the budget of the Ministry of Agriculture the allocations were merely for the technical work of execution of the agrarian reform.

Co-operative credit banks do not engage in mortgage credit operations nor do private credit banks.

The State Land Bank makes loans on mortgage terms and in the first place against three-fourths of the value of the real property. These loans are repayable within a period from 13 and a half years to 41 years. Repayment of loans takes place every six months in such a way as to maintain at a constant level the total capital by means of the interest and amortisation payments. Credit in mortgage notes at 4 per cent. and 6 per cent. is given. Under the form of mortgage notes loans at 2 per cent. are also granted by the State Land Department.

Mention should be made of the legal measures adopted and especially in respect of granting of credits to occupiers of lands on which the right of ownership is not yet regulated from the economic point of view ; these credits are given on the same terms as mortgage credits. Persons holding lands in regard to which the rights of ownership have not yet been regulated include the owners of newly constituted holdings, *i. e.*, those for which the deeds of confirmation have not yet been drawn up. In order to ensure credits to farm holdings of this type, a be-

ginning had been made by grants for a period of three years and on a personal footing against a signed document constituting the real estate as security for the debt. This procedure proved too complicated, and in order to facilitate the obtaining of credits, a law was enacted on 29 May 1925, in accordance with which loans were made under the form of bonds by the State Land Bank. According to the provisions of the former civil legislation of the Baltic countries, the rights of ownership relating to objects in regard to which legal contracts had been made bind the owner as well as his real and his personal property. The law of 29 May declares that claims on real property relate to mortgage notes only in connection with the State Land Bank, and for the purpose of securing advances to new owners. If any one surrenders his rights on property to another person, the latter assumes all the obligations incumbent on the property in question. By the institution of mortgage notes rules of a legal nature have been set up which without being precisely formulated as law involve the property in indebtedness from the economic standpoint.

If the system of mortgage credits is to be conformed to the requirements of the newly formed holdings, the following facts of an economic character must be noted: the fixing of the totals of the loans for the newly formed holdings and the conditions of repayment, as well as the fixing of the advances for the small agricultural holdings sold by the State Land Bank, the sum being fixed at 90 per cent. of the value represented by the property in question.

Since 1925-26 the State has placed an annual agricultural credit of ten millions of lats at the disposal of the State Land Bank. This Bank opens large long term credits to farmers. The Bank of Latvia which had made loans for farming requisites has in part liquidated these by transferring them to the State Land Bank. The smallholders have been very frequently obliged to incur indebtedness by signing notes which they have great difficulty in paying and which bear a high rate of interest. The State Land Bank has endeavoured to take over these liabilities. In the year 1928, nearly 10 millions of lats have been transformed into bank loans which are both better secured and less onerous for the small holder.

The new farm holdings have received no benefit from direct financial assistance; the benefit to the holders has been rather that of obtaining their lands at a minimum price. This price has been fixed at 10 lats per hectare for land of average quality and up to 20 lats per hectare of land of superior quality; forests and buildings are separately valued. However in 1924 the price of new lands on the market was on the average 36 lats per purvete (=0.37 hectare) and 65 lats if they were equipped with buildings; in 1927, the price of the new and the former buildings was practically fixed.

Ten per cent. only of the new cultivators have benefited by lands provided with farm buildings, the remainder have to put up their buildings themselves. At present nearly all the holdings are provided with dwelling houses, and it is the construction of shelter for the live stock that is more urgent. Eighty per cent. of the holdings possess stables and 30 per cent. have barns. In order to pay for building material the new cultivators have been able to obtain long term loans which have been granted directly by the State, and subsequently by the State Land Bank, founded in 1922. Long term loans have also been granted for the purchase of equipment and stock.

The new holdings obtain building materials supplied by the State forests. By the terms of the law of agrarian reform on building credits, the new owners had only to pay a third or one-fifth of the cost of these materials. For this purpose, an annual credit of 10 millions of lats has been allocated on the budget for the five year

period beginning in 1925-26. During the period of construction the borrowers pay on the loans obtained as already indicated only one per cent. of interest.

5. *Agricultural Production.*

The agrarian reform was effected immediately after the war at a time when the agriculture of Latvia had been to a great extent wiped out and when the greater part of the farms and buildings as well as the real and personal property had been destroyed. The credit resources had disappeared with the failure of Russian finances and a part of the population had been obliged to take refuge in Russia or had disappeared. It is therefore difficult to ascertain as a whole and with precision the changes which have taken place in agricultural production and are connected with the agrarian reform. It does however appear that the agrarian reform has greatly facilitated the intensive work on the lands to be worked as well as the increase in the production capacity of agriculture. The benefits of the agrarian reform will no doubt become evident in the future, after it has become an established fact.

Thanks to the rapid development of co-operative dairies, slaughter-houses and other co-operative undertakings, the quality of the agricultural products has been considerably improved. In the course of the last few years the co-operative movement has made immense progress, especially the movement in favour of co-operative societies for the joint utilisation of agricultural machinery and of societies for manufacture of dairy products. The new holdings established by the agrarian reform have an area each of less than 15 hectares. The disadvantages attending holdings of this type in comparison with the large estates may be avoided by co-operative methods.

The gross and net return in all Latvia has increased since 1924 by 15 to 40 per cent. as compared with the pre-war situation of the national economy.

6. *Trade in Agricultural Products.*

In view of the fact that large landed property has been completely abolished by the agrarian reform, apart from certain holdings of moderate extent which belong to the State, to the communes, to charitable or scientific institutions, nearly all marketable agricultural products come from the peasant farmer holdings. In view of the fact that the standard of welfare of the population was fairly high before the war, and as there was no suffering from insufficiency of products for consumption, the carrying out of the agrarian reform could not have any perceptible effect on the increase of agricultural products nor could it have unfavourably affected the export of these products. This export has very decidedly increased since the war.

It is impossible to institute a comparison between the ratio of agricultural export to the general exportation before and after the reform, owing to the fact that the customs policy is at present quite different from what it was before the war.

The co-operative societies play a very important part in the trade in agricultural products. The dairy industry, to the extent of 75 per cent., is organised by the co-operative societies; and 75 per cent. of the butter export is also in the hands of co-operative societies. The export of meat and animal products is almost entirely undertaken co-operatively. A similar important part is taken by these societies in the cereal trade.

7. Prices of Agricultural Products.

The average prices of the principal food stuffs and industrial products on the Riga market from 1924 to 1926 were as follows:

	Unit	1913 gold francs	Average prices		
			1924 gold francs	1925 gold francs	1926 gold francs
Oats	100 kg.	14.59	20.10	24.37	20.82
Barley	100 "	14.98	22.59	26.78	21.16
Eggs	1,440 (box)	123.09	188.92	194.22	181.50
Butter of first quality	100 kg.	252.67	416.68	444.38	382.71
Livonian flax	1,000 "	830.30	2,858.00	2,420.00	1,818.00
Iron for working	100 "	26.86	22.25	21.40	21.14
Iron rakes	100 "	35.65	35.34	32.10	32.30
Oils, fats	100 "	97.68	127.20	111.54	105.00
Superphosphate 18 %-20 %	100 "	7.50	9.06	9.00	8.70
Kainit	100 "	5.05	5.45	5.48	5.61
Potash salts	100 "	12.53	11.91	11.73	12.53
Petroleum	100 "	21.48	—	26.44	26.50
Naphtha	100 "	11.83	—	24.16	22.00

8. Rural Exodus.

From the point of view of national economy, there is a surplus rural population in Latgale. In this part of the country not all the workers on the small holdings can find occupation in agricultural work on the spot, and for this reason they are obliged to look for work in the other parts of Latvia, as agricultural workers, artisans or as job workers. As from early times the agricultural workers of Latgale have sought occupations in the other parts of the country, the surplus rural population of Latgale does not exercise any perceptible influence on the level of rural merchantable commodities, nor on the increase of rents. Speaking generally the rural exodus has diminished with the agrarian reform. As regards the measures taken for effecting a return of the urban population to the land, it should be noted that a large element in the urban population, those who fought for the liberties of Latvia, have received new holdings which they are farming at the present time.

9. Insurance.

Fire insurance is compulsory, but live stock and hail insurance are not practised to any great extent. With the agrarian reform, social insurance has come into general use.

10. The Peasant Balance Sheet.

Before the agrarian reform, farm accountancy existed only in connection with the large feudal estates. Courses in accountancy for farmers were established by the central agricultural organisations. Some of those who had attended the courses used to keep accounts by the single entry method.

A farm accountancy bureau was organised on 1 May 1923 at the Central Agricultural Society, the system in use being that of double entry. The office undertook to keep the accounts for about 100 households.

According to data supplied by the Accountancy Office, capital employed in farming had given the following returns:

In 1923-24	3 per cent. (I)	In 1925-26	6 per cent.
" 1924-25	4.2 per cent.	" 1926-27	1.2 per cent. (I)

(I) Unfavourable weather made returns on capital low.

From the fact that farm accountancy is practised only on a small number of farms, it is at the present time impossible to ascertain particulars as to increase or fluctuation of returns on lands which are farmed on different systems. According to information supplied by the Farm Accountancy Office expenditure for farm requirements on the one hand and for the needs of the farmer's family on the other were distributed as follows :

In 1924-25, for farm requirements, 86.4 per cent. ; for the needs of the farmer's family, 13.6 per cent.

In 1925-26, for farm requirements, 86.9 per cent. ; for the needs of the farmer's family, 13.1 per cent.

Subsidiary home occupations are but little carried on by the farming population, and have little importance as regards income. Only a few farmers obtain additional returns from forestry.

Owing to the difficult situation of Latvian agriculture, in consequence of the poor harvests of the last two years, the taxation burdens have pressed heavily on the rural population.

II. *General Development of the Agrarian Reform.*

The agrarian reform is proceeding in a satisfactory manner and at the present time it may be regarded as practically completed. The work of survey is finished, the dwelling houses and farm buildings have been erected, and the farm stock purchased. The reform has had no adverse influence upon the agricultural productivity. On the contrary, an appreciable increase of yield is to be noted.

The agrarian reform has been throughout carried out, in all its aspects, in complete accordance with the law and with the law on agrarian reform. The modifications subsequently made do not affect the essence of this reform, but merely involve certain small corrections of a technical character which have been introduced into the original text. The consolidation of parcels of land in the villages will continue for about two or three years, and the survey of lands assigned will last from 6 to 8 years.

12. *Moral and Social Results of the Reform.*

The agriculture of Latvia owes its development to the work of the agricultural societies and the co-operative organisations, and also, since the proclamation of Independence, to the agrarian reform, was recognised to be essential alike from the social standpoint as from the point of view of an improvement in the standard of life of the rural family. In this connection it is desirable to mention that 127,410 new farming units have been created by the agrarian reform and by the law on the construction of dwelling houses suitable for families of farm workers.

Social life in Latvia before the war had already been highly developed, although it was greatly hindered by the Russian laws : the peasants struggled against the process of Russification, founded societies, co-operative associations, credit associations, schools, etc. so that at the outbreak of the world war the people were ready for independence. At the present time now that all hindrances are removed and that great changes have come about as a result of the agrarian reform, the social movement is again becoming important in the country districts. There are a number of vocational schools (88) including 44 devoted to agriculture (four in 1920), as well as schools of household management and of horticulture, a school of bee-keeping and two technical schools. The University of Riga has a faculty of

agriculture with its section of silviculture, laboratories, experiment stations, and its model farms. Competent agricultural experts have been supplied to Latvia from this institution. Apart from those already mentioned, a number of private scholastic institutions are maintained by various organisations, *e. g.*, the Priekuli Institute of Agriculture, subsidised by the Latvian Central Farmers' Society. Generally speaking it may be said that the foundation of a large number of societies has been rendered practicable by the agrarian reform to such an extent that at the present time Latvia is covered with a network of societies of every type.

As regards the employment of leisure time by the rural population it may be noted that this is largely a question of after school instruction which undertakes to impart general culture and the arts among the younger generation. Thanks to the fund for education it has been possible to establish in the country libraries, reading rooms, choral and musical societies. There are in addition sport clubs, welfare societies, temperance societies, aid societies organised by women, etc.

In regard to the question of a greater attachment to the land, it is of interest to note the unshaken confidence which the Latvian people have in the work of the agrarian reform, as well as the steady purpose and sustained endeavour with which the inhabitants of the rural districts develop their associations and societies, which are a guarantee of prosperity and a better future.

Latvian farmers are greatly concerned that the new institutions established by the agrarian reform should be placed on a stable footing by legislation; it is of importance for the rural population that there should be every guarantee for the security of the State, the progress of culture and the true spirit of democracy by which a participation in the work of legislation is assured.

The agrarian reform in Latvia has undoubtedly been a very important factor in the establishment of a social understanding. It has done much to reduce the class conflicts and it is giving to the country a noticeable social stability. Under the former system of large estates, almost two-thirds of the rural population were landless workers. This fact bulked large in all radical propaganda. As small holders these same workers are now a conservative element.

CREDIT

Mortgage and Agricultural Credit in Chile.

Up to the time of the Law of 27 July 1926 the agricultural credit service in Chile was amalgamated with that of mortgage credit and co-ordinated with that of the National Savings Bank.

The Mortgage Credit Bank of Chile, established under the law of 29 August 1855, has a very extensive sphere of action, as may be judged from its statement of accounts of 30 June 1927, the balance sheet total being 1,402,391,111.50 *pesos*, and among the assets being agricultural loans for a sum of 7,970,906.89 American dollars.

The Bank has effected a very considerable development of agricultural mortgage credit and credit in favour of all the working classes, by means of savings deposits.

The differentiation of the two services, agricultural and mortgage credit, began with the Law of 27, July 1926, which had received support from the Ministry of Industry and Land Settlement.

The Bank of Mortgage Credit was authorised to issue the two new kinds of credit bonds as follows:

1. letters of credit with date of expiry in six months to five years, guaranteed

by pledge certificates, authorised by the law of 28 November 1922 on the general warehouses ;

2. letters of credit guaranteed by loans on agricultural pledge, similar to the long term letters formerly issued by the Bank.

The two kinds of bonds may be in national or foreign money and will act as warrants intended for the development of agricultural production corresponding to the pledge notes and in addition guaranteed by the State.

The interest on both kinds of bonds is not to be higher than 8 per cent. yearly, with power to collect up to one per cent. in commission dues, by decision of the Council of the Bank, approved by the President of the Republic.

So as to ensure a market for the new bonds, art. 5 of the Law enacts that public Companies and institutions, which by the terms of the law in force are obliged to invest part of their funds in public securities, are to have the power to invest in the letters of credit, instituted by this Law. With the same object it has been arranged that these bonds may be used as security for obligations towards the State.

The Regulations issued for the application of this law, and published in April 1928, contain some important rules of which some mention should be made. After having organised the general warehouses, the producers' co-operative associations, and the affiliated societies which are under the direction of the Mortgage Credit Bank, the Regulations enact that these bodies shall be authorised to demand for the credits given by them only an interest of one and a half per cent. higher than that which they will have to pay to the Bank for advances made to them, and that they must allocate at least one half per cent. to the reserve fund.

The issue also of the bonds of agricultural credit of the Bank, secured by the agreements made, is regulated with the object of making use of the receipts for increasing agricultural production. These bonds are registered at the superintendent's office at the *Casa de Moneda* with the formalities instituted for the mortgage bonds of the Law of 1855.

The Bank will be able to control the investment of bonds in Chile and abroad, but must maintain continuously on its books agricultural credit bonds for an amount equal to that of the bonds issued, either proceeding to replace those which have been annulled or proceeding to extraordinary amortisations.

Finally by the Law of 26 March 1928 on agricultural credit the necessity was recognised of a further separation of the special services of credit intended for productive agricultural purposes and for this purpose there was founded the Bank of Agricultural Credit with an initial capital of 2 millions of *pesos*, divided into 50,000 shares which were almost all subscribed by the Bank of Mortgage Credit which was empowered to contract a foreign loan of 10 million dollars to collect capital.

The Bank mainly makes loans on agricultural pledge and in the second place grants mortgage loans for improvements or for the establishment of agricultural industries.

Subsequently the Bank increased its capital up to 20 millions of *pesos* and the new shares were nearly all subscribed by the National Savings Bank. In reality however its capital is unlimited since the law allows it to surrender its credits to the Mortgage Bank and to discount its bills of exchange at the Central Bank of Chile ; and in this way it can avail itself of the financial strength of these two great institutions.

The work of this Bank which has been in existence for two years has been widely beneficial already.

From the report on the progress of the Bank in the second year of its existence, it appears that proof is strictly required that the loan is being applied to produc-

tive uses and that the farmers have recognised that the reason of the reform and of the function of the Bank lies in this special control which contains in itself the main guarantee.

Up to 31 December 1928 the Bank had made loans for 83,134,325 pesos; and the debtors has already repaid 26.58 per cent. of this amount.

It appears that with the help of the Government the Bank has been able to sell nitrate of soda to farmers at the cost price of production, the purchasers being allowed to pay for it at harvest time.

In the same way the Bank bought and sold other fertilisers and selected seeds, and now intends to make similar provision for the live stock required by the farmers.

It may also be noted that provision has been made for a further development of mortgage and agricultural credit in Chile in application of the Law of 1928 on Land Settlement, by means of sale or renting of the public lands in the Territory of Magallanes. In this law provision is made for plots of land up to 2,000 hectares in extent to be rented with undertaking to sell; plots up to 10,000 hectares to be rented on an improving lease; also for plots in unexplored or little known territories, up to 5,000 hectares.

This lands are put up to public auction. The price to be fixed with undertaking to sell is to be paid at ten per cent. at the time of the transfer and the remainder in 15 yearly payments. Delayed payments are liable to interest of six per cent. for lots placed on sale and of eight per cent. for those rented.

Lots are open for purchase by Chilean citizens, persons naturalised for more than one year and resident in Chile for 10 years; foreigners are allowed the opportunity of renting the lands.

E. F.

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FARM ECONOMICS

Accountancy Results in German Agriculture during the Financial Years from 1924-25 to 1927-28 as forming a basis for Farming Statistics.

Out of the accountancy results of the 40,000 farms attached to the 500 Farm Accountancy Offices of Germany, a considerable number (in 1927-28 nearly 13,000 results) is used each year for the establishment of statistics relating to farming conditions. These statistics are centralised in the *Betriebstelle des deutschen Land-*

wirtschaftsrates, and are also established separately in each of the 500 Offices of Farm Accountancy as regards the district with which each is concerned. In the Central Office statistics have been drawn up in different years based on accounts relating to the number of farms shown in the following table :

Year	Number of Farms
1912-13	294
1913-14	294
1924-25	2,689
1925-26	3,218
1926-27	3,212
1927-28	3,325

The examination of accountancy results made for the Commission of Enquiry of the *Reich* concluded with the financial year of 1926-27. In the numbers of July 1928 and July 1929 of this *Review* there appeared a short resumé of the results of the three years reviewed by the Commission of Enquiry, 1924-25, 1925-26 and 1926-27. The investigations on accountancy made by the Commission of Enquiry should, in the first place, do much to throw light on the changes which have come about in the position of German agriculture since the pre-war period, and on the causes of these changes. Apart from the study of wages, taxes and charges resulting from social legislation, and of the agricultural income, full use of the data available for these three years was made only in respect of the average over those years.

On completion of its work for the Commission of Enquiry the German Council of Agriculture continued its compilation of accountancy results on the same scale and following the same principles. The last annual report of the Office presents the data for the financial year 1927-28 and compares them with those of the three previous years. This comparative method makes it easy to gain a clear idea of the development within the last four years of the conditions and results of German agriculture. In the preface of this publication the question is discussed whether, in a comparison of the results of several years, there ought only to be included such farms as supply the relevant material for all the years in question, or whether there should be a certain re-arrangement of the material from one year to another. The ideal would of course be to have the same farms under review for all the years in question. But in practice this is not feasible, as the number of the farms would become gradually less, if only because farms have to be excluded, either for one or for several years, on account of special economic conditions. In view of the form taken by the question (*viz.* what are the typical conditions for each year?), the number of farms is of the greatest importance. For this reason use has been made of the results of all farms for which there exist data, whether such data are available for all four years or not. After elimination of the farms the results of which do not lend themselves to statistical utilisation, the numbers under investigation were finally established as follows :

1924-25	2,689 farms
1925-26	3,218 »
1926-27	3,212 »
1927-28	3,146 »

Among these farms there are 1,243 for which data are available for all the years. The classification of the materials for 1927-28 followed the same lines as in previous years, but the grouping was on stricter lines. Along with a grouping according to 8 farming regions there was one instituted according to two such regions (Eastern Germany and Western Germany). Within these regions and groups there is a sub-division in accordance with the following farming systems:

Sugar beet farms
Potato farms
Cereal farms

Forage crop farms
Distilleries
Pasture farms.

The size categories of farms in Eastern Germany are 5-50 hectares, 50-200 hectares and over 200 hectares, and for Western Germany 5-20, 20-100 hectares and over 100 hectares. In the statements showing results of the farming the average interest payable has been added in order to judge of the degree of indebtedness.

These statements show the very considerable fluctuations of the crop yields. The yields of the small farms are more nearly on a level than those of the larger farms. The same fact may be noted in connection with the milk yields. On the basis of the available figures the increase in the yield of milk per cow is estimated at 350-400 litres in Eastern Germany and at 400-500 litres in Western Germany.

Cash receipts and cash outgoing of the farm have increased from one year to the next and there has been no perceptible increase in the spread. Taking the average of all the farming groups the cash expenses during the years 1924-25 to 1927-28 were 92, 87, 90 and 87 per cent. of the cash receipts.

While slight fluctuations only have occurred in the supplies in kind furnished by the farm to other accounts, and in the supplies furnished to the farm from other accounts, the farming output and the farm expenditure show a tendency to increase. The increase in the farm expenditure is in general larger in proportion to the intensity of the farming system and to the diminution in the size of the farm. On the average of the farming groups of Eastern and Western Germany the farming output and the farm expenditure were as compared with 1924-25 (= 100):

	1925-26	1926-27	1927-28
Farming output	106	114	118
Farming expenditure	104	112	115

The development of the net return varies in the different groups. Taking the average of all the groups, the net returns have increased, although they may still be described as unsatisfactory, in comparison with the pre-war net returns and with the charges that have to be met out of the net return. The proportion of farms showing a net return to the total number of the farms under review is in the farming year 1927-28, nearly the same as in the two preceding years.

A summary follows of the more important results. The net return is not shown in either table, it is of course to be found from the difference between the farming output, or gross return, and the farming costs.

The enquiry closes with the following remark: "The slight improvement which may be observed in the net returns during the four year period cannot really relieve the situation. The sums required for paying interest on borrowed capital have to come out of the net return. This interest has mounted up year after year, since the net returns have been on the average too low to meet the capital requirements of the farms, and hence the farmers have been obliged continually to contract new loans".

For 1927-28 the figures relating to the interest to be paid are provisional only. The following table summarises the data as regards interest as ascertained for the years 1924-25 to 1927-28.

TABLE I. — *Farming output, farming costs and proportion of farms showing a net return to the total number of the farms in the group of Eastern Germany.*

Farming system and year		Size Categories.								
		5 to 50 hectares			50 to 200 hectares			over 200 ha.		
		1	2	3	1	2	3	1	2	3 (1)
1. Sugarbeet farms	1924-25	743	600	94	713	683	81	771	695	77
	1925-26	738	640	70	724	699	62	715	708	55
	1926-27	767	656	84	786	709	78	788	724	77
	1927-28	810	697	85	840	767	81	868	788	84
2. Potato farms	1924-25	645	534	78	717	685	67	574	543	68
	1925-26	684	570	75	789	732	74	541	529	87
	1926-27	792	701	89	854	804	68	629	613	74
	1927-28	752	631	67	754	616	67	653	627	77
3. Cereal farms	1924-25	514	469	69	526	497	69	510	532	42
	1925-26	571	582	65	595	550	77	567	561	59
	1926-27	618	581	73	599	572	68	595	586	64
	1927-27	651	597	75	612	583	70	627	607	62
4. Forage crop farms	1924-25	505	509	47	403	406	53	387	427	29
	1925-26	587	565	59	463	450	58	563	454	58
	1926-27	667	612	72	494	488	58	474	483	58
	1927-27	628	623	55	478	480	52	489	496	58

(1) 1. Farming output in R. M. per hectare of agricultural land.

2. Farming costs " " " " " " " " " "

3. Percentage of farms with net return.

TABLE II. — *Farming output, farming costs and proportion of farms showing a net return to the total number of the farms in the group of Western Germany (excluding Bavaria).*

Farming system and year		Size Categories.								
		5 to 20 hectares			20 to 100 hectares			over 100 ha.		
		1	2	3	1	2	3	1	2	3 (1)
1. Sugarbeet farms	1924-25	559	549	78	680	649	68	611	697	61
	1925-26	640	586	75	668	633	74	600	585	57
	1926-27	667	604	56	666	639	62	631	616	62
	1927-27	745	704	69	679	655	58	642	621	57
2. Potato farms	1924-25	456	429	71	409	402	58	417	432	34
	1925-26	486	450	72	418	414	55	403	409	42
	1926-27	580	467	67	465	466	52	436	435	59
	1927-28	595	555	59	497	495	46	438	430	53
3. Cereal farms	1924-25	349	343	52	355	368	41	343	377	31
	1925-26	377	365	21	387	374	62	353	365	47
	1926-27	405	397	57	397	403	53	402	403	53
	1927-28	480	439	72	425	426	47	386	405	35
4. Forage crop farms	1924-25	283	296	39	242	273	23	252	298	16
	1925-26	309	304	57	270	271	50	273	288	34
	1926-27	331	330	53	293	298	48	288	303	35
	1927-28	324	325	50	301	294	58	304	320	46

(1) 1. Farming output in R. M. per hectare of agricultural land.

2. Farming costs in " " " " " " " " " "

3. Percentage of farms with net return.

TABLE III. — *Interest payable per hectare in R. M.*

Year	Sugarbeet farms			Potato farms			Cereal farms			Forage crop farm		
	Small	Medium	Large	Small	Medium	Large	Small	Medium	Large	Small	Medium	Large
a) in Eastern Germany												
1924-25	9.5	23.2	22.3	15.6	25.9	22.6	18.6	19.1	25.4	17.4	18.5	22.9
1925-26	17.0	36.6	36.6	24.9	36.4	35.0	29.8	28.5	37.0	23.2	28.5	35.1
1926-27	33.6	40.8	40.8	30.7	38.8	41.8	31.7	31.6	38.5	26.0	30.7	34.8
1927-28	(41.0)	(55.2)	(55.8)	(42.7)	(58.4)	(46.4)	(42.7)	(44.2)	(44.8)	(29.1)	(41.3)	(42.3)
b) in Western Germany (excluding Bavaria)												
1924-25	29.1	23.1	22.5	33.6	15.4	21.0	13.1	21.4	25.4	23.4	16.5	27.7
1925-26	39.2	34.9	42.7	42.7	25.8	35.3	16.0	30.7	39.9	31.0	22.3	33.2
1926-27	42.5	36.8	47.1	46.6	34.3	29.6	24.4	31.6	44.7	28.3	26.3	41.1
1927-28	(44.4)	(43.7)	(60.3)	(42.4)	(43.7)	(41.7)	(27.3)	(39.0)	(62.6)	(33.1)	(34.4)	(58.4)

H. B.

MISCELLANEOUS

Changes in Bread Consumption: Causes and Consequences (*Conclusion*).

II. — THE INCREASING USE OF HARD WHEAT IN BREADMAKING.

Passing on from the subject of the change from rye to wheat in bread consumption, a process going on for centuries, we turn our attention to another important change of later origin in the nature of "the staff of life", viz., the increasing use in breadmaking of hard wheat, cultivated from early times in southeastern Europe but only since about 1870 beginning to gain world wide importance.

Stone mills, into which the quern or hand mill gradually developed as civilization progressed, ground practically all the bread stuffs of the civilized world prior to that date. As long as these mills worked with the starchy, soft, tough-skinned, large-berried wheats mainly cultivated in western Europe and the eastern United States comparatively little grinding could reduce the kernel to the necessary degree of fineness without pulverizing too much the tough husk. Most of this remained in fairly large pieces, which could be separated by sifting, with the result that a fairly white flour was produced, i.e. a flour, the whiteness of which certainly would not have seemed satisfactory to the public taste of to-day (the flour obtained by stone milling as a rule contained about 80 % of the grain), but which corresponded to the less wasteful claims in this respect 60 years ago. By grinding the smaller-grained, thin-skinned and brittle hard wheat, at that time a new-comer in the world market, the stone mills, however, failed to produce a flour white enough to suit the consumer. The hard grain required more grinding in order to be reduced to the necessary degree of fineness, a treatment which the brittle bran coat was not able to resist. It was ground to powder together with the kernel and could not by sifting be adequately separated from the flour, which in consequence became darker than did flour from soft wheat. Hard wheat was therefore first sold at a discount and in United States the lands upon which it was grown were in low esteem.

It was the development of means of transport for bringing the hard wheat of central North America to the sea, the discovery of "tempering", i.e. the mellowing of the hard kernel and toughening of the bran coat by addition of water, and more general introduction of "the high milling process" or "gradual reduction process" of milling with steel rollers, which, in the seventies, made of the despised hard grain the most prized flour in the world market.

"High grinding" had to a certain extent been used already earlier in connection with stone mills. By this process the stones were set so as to grind the kernel only partially in the first operation. Then the product was sifted, and what did not pass through certain mesh sieves was passed through another pair of stones set a little closer, a process which was repeated until the endosperm was reduced to as fine a flour as was desired and no more of it could be ground off from the bran.

The really revolutionizing development, however, was achieved in the gradual reduction process first when mill stones were substituted by steel rollers. It was not from want of knowledge of the advantages of the roller system that this substitution did not take place sooner than about 1870. In Hungary, where hard-kernelled, thin-skinned wheats had long been commonly grown, this method had been used long before. The reasons for the slow displacement of stones by rollers was due to the fact that the methods of power transmission only slowly developed. As long as water was the main source of power it was easier to make a water wheel turn a large stone than a number of rollers and also during the early use of steam power the steam engine more easily turned a few large stones than many pairs of rollers. Once the problem of power transmission had been solved, however, the steel roller process rapidly spread all over the world to a great extent supplanting the stone mills and giving the hard wheats their chance. No matter how hard the kernel or how thin the skin of the grain, by the roller process it was always possible to produce a flour of a whiteness suiting the most excessive claims of the consumers.

The improvement in the milling process would, however, not have been enough to secure the hard wheats the rank as the most appreciated and highly prized wheat in the world market, had they not at the same time in their "strength" possessed a quality, which to the consumer made their flour preferable to the flour from "weak" wheats. As "strength" we may define the capacity of the wheat to produce a large, well-risen loaf of uniformly porous texture, a quality which implies the capacity of the flour made from it to absorb and hold a considerable quantity of added water as well as the gas produced by fermentation during the baking process. The strength depends upon the quantity and the quality of the gluten in the wheat, *i. e.*, the content of gluten must be fairly high (more than 12-13 % of protein does however not necessarily mean added bread-making value) and the gluten must contain a high proportion of gliadin. In these qualities the "weak" wheats are lacking and they give therefore smaller close-textured flat loaves, which the consumer of the present day has been led to regard as inferior in taste and nutritive value. It is to this fact, and to the circumstance that the amount of "strong" wheats available is relatively limited, that we must look for the ultimate cause of the high appreciation and relatively high price of the hard wheats. Should the consumer's taste in bread change, and damp close-textured bread again become fashionable, as it was about 60 years ago, the difference in price would no doubt disappear.

It may however be asked if this preference of the consumer of the present day for white highly-aerated bread has been advantageous. To the baker, to the hard wheat importing mills in the ports, and to the hard wheat exporting countries, certainly yes. From the point of view of the baker the strong water absorbing quality of the hard wheats is very advantageous since to him the quantity of bread which can be obtained from a given quantity of flour is the most important consideration. From a flour milled from "strong" wheats the yield of bread may be as much as 50 % or more above the actual weight of the flour used, while from flour made from "weak" wheat the yield may go down to only 25 % more than the weight of flour. In such circumstances it is then only natural that the baker tries to reduce

the amount of flour from "weak" wheats to as small a proportion as possible and that he would not welcome a change in the present public taste in bread.

In the case of the consumer, on the other hand, the question must be otherwise judged, it the point of view of economy and nutrition is adopted. It is true that the amount of protein supplied to the body from 1 kilogramme of bread made of "strong" wheat flour is on an average larger than in the case of bread made from "weak" wheat, but as regards the total amount of energy furnished, bread baked of "strong" wheat is in comparison inferior, owing to the fact that it contains relatively less carbohydrates and, in consequence of the larger water absorbing capacity of the flour, more water (see table on page 460). It is evident that for the consumer's purse a bread made from a flour which gives a low yield of loaves per unit weight and in consequence has a greater flour content is to be preferred.

It is also obvious that to the farmers and inland millers in countries growing mainly "weak" wheats but now also importing great quantities of "strong" wheats in order to suit the public taste in bread, the change has not been favourable. The concentration of the milling industry in the big ports has been a great handicap against the inland millers, who in order to make their flour saleable have been forced to restrict their demand for locally grown "weak" wheats and to include a considerable amount of "strong" imported wheat, the transport costs of which from the sea port they have to bear, whereas the port miller gets his foreign wheat direct from the ship. The surplus of the locally grown "weak" wheat, which the inland miller cannot use, the farmer, on the other hand, must either feed to animals or send to the port mills, where, its price raised by the transport, it has to compete with the cheapest imported varieties.

However, although owing to propaganda and increased knowledge of nutrition among consumers, their opposition to close-textured bread may disappear, such a change in the public taste is hardly to be expected in the near future, as strong economic interests would work against it. In European countries, which are at present forced to import great quantities of "strong" wheats, it will therefore probably be in the main seed selection directed towards the production of types of "strong" wheats adapted for such countries that will reduce the need of foreign hard wheats.

III. — THE INCREASING USE OF BRANFREE FLOURS IN BREADMAKING.

We finally pass on to consider another change in bread consumption, a change of the highest economic and nutritive importance, *viz.*, the increased use as civilization advanced of highly milled products containing less of the husk of the grain and more of the kernel. The last and most important stage of this development dates about 60 years back, when the roller process, making possible an almost perfect separation of the bran, was introduced. How far this development towards an increased production and consumption of an ever whiter flour really has meant a progress from an economic and nutritive point of view is a question which since the days of Parmentier and Liebig has been the occasion of much controversy and which still to-day is the subject of animated discussion.

Which is the better course, to eat whole meal bread or bread from white flour, to include the bran and the germ in the flour or to feed them to animals? As regards the amount of protein, fat, carbohydrates and minerals and total energy present in flours of different extraction, *i. e.*, containing more or less of the bran coat and germ of the grain, it is an established fact that flours including more of the bran and the germ are richer in proteins, minerals, and fat and usually of a somewhat greater caloric content than flours containing only little or no bran and germ.

These latter flours, on the other hand, are richer in carbohydrates (see table below). It is obvious, however, that the total amount of various nutrients in the flours of different extraction is no index of their food value, which depends not on the amount present but on the amount digested and utilized by the body, as well as on the quantity of the nutrients digested. As regards the quantity of protein, carbohydrates and calories utilized by the body, numerous experiments have shown that flours including more of the outer parts of the grain are inferior to flours containing less. Accurate tests of the digestibility of fat are difficult and are not often undertaken. For the comparison in question this, however, is a matter of little importance, as the actual amount of energy available from the fat of wheat or rye flour of whatever extraction is only very small.

With a view to showing more in detail the differences in the utilization of flours of various extraction and as a basis for later conclusions, the following table has been prepared showing the average results of some of the digestive studies carried out by the United States Department of Agriculture in co-operation with the Maine and Minnesota Agricultural Experiment Stations (United States Department of Agriculture, Office of Experiment Stations. Bulletins 85, 143, 101, 126, 156) (1). These studies have the great advantage that they have been carried out with several experiment subjects under uniform conditions as regards diet, quality of wheat and way of milling, all points of the greatest importance for arriving at really comparable results of the digestibility of flours of different percentage of extraction.

Chemical Composition and Digestibility of various Flours and Breads.

Flours and Breads	Percentage of Extraction	Chemical Composition						Coefficient of digestibility (Percentage utilized by the body)		Amount utilized in 1 kilogramme			
		Water	Protein	Fat	Carbohydrates	Minerals	Calories in 1 kilogramme	Protein	Carbohydrates	Protein (grammes)	Carbohydrates (grammes)	Calories	
		%	%	%	%	%							
Flours:													
Minnesota hard wheat	72	10.54	13.14	1.61	74.21	0.50	3 732	85.3	97.5	112	723	3 424	
	85	10.81	13.44	2.24	72.49	1.02	3 731	80.4	94.1	108	682	3 239	
	100	8.61	13.86	2.44	73.78	1.72	3 820	77.6	88.4	107	652	3 112	
Oregon soft wheat	72	8.94	7.55	1.25	81.82	0.44	3 780	84.9	98.2	64	804	3 559	
	85	8.66	8.25	1.67	80.35	1.07	3 788	71.1	94.1	59	756	3 342	
	100	8.15	8.97	1.68	79.48	1.72	3 783	63.0	91.2	57	725	3 206	
Oklahoma hard wheat	72	9.93	15.06	0.92	73.57	0.52	3 719	90.9	97.7	137	719	3 510	
	85	7.46	16.63	1.64	73.05	1.22	3 829	79.6	90.5	132	661	3 251	
	100	7.73	16.81	1.79	72.35	1.32	3 822	77.3	87.4	130	632	3 124	
Breads made from:													
Minnesota hard wheat flour . .	72	44.13	7.75	0.90	46.90	0.32	2 324	85.3	97.5	66	457	2 144	
	85	49.16	7.45	1.14	41.73	0.52	2 122	80.4	94.1	60	393	1 857	
	100	47.20	7.76	1.27	42.85	0.95	2 193	77.6	88.4	60	379	1 799	
Oregon soft wheat flour	72	34.95	5.41	0.89	57.85	0.90	2 666	84.9	98.2	46	568	2 517	
	85	39.95	5.70	1.09	52.39	0.87	2 483	71.1	94.1	41	493	2 169	
	100	38.55	6.11	1.12	52.68	1.54	2 515	63.0	91.2	39	480	2 128	
Oklahoma hard wheat flour . .	72	37.65	10.13	0.64	51.14	0.44	2 572	90.9	97.7	92	500	2 427	
	85	41.31	10.60	1.04	46.11	0.94	2 422	79.6	90.5	84	417	2 054	
	100	42.20	10.65	1.12	44.58	1.45	2 369	77.3	87.4	82	390	1 935	

* The amount of calories has been calculated by multiplying the quantities of protein and carbohydrates by the factor 4.1, the quantity of fat by the factor 9.3.

(1) The bulletins in question not having been available the data have been quoted from JAGO: The Technology of Bread-making. London, 1911.

Two kinds of hard wheat, Minnesota and Oklahoma, and one kind of soft wheat, Oregon, are represented in the table and each with three flours of respectively 100,85 and 72 % extraction, *i. e.* flours containing respectively 100,85 and 72 % of the whole grain. As all the three different grades of flours of the same wheat have been milled from one and the same lot grown under identical climatic, seasonal and soil conditions, the difference in composition between, for example, a Minnesota flour of 100 % and 72 % extraction is then only to be attributed to difference in the milling process and not at all to differences in the wheat used. As, on the other hand, the milling process has been identical for all the flours of the same extraction, the difference in composition between, for example, the Minnesota and Oregon flours of 72 % extraction may be accounted for entirely by differences in the original grain.

Limiting for reasons of brevity the comparison between the different grades of flours to those of 72 and 100 % extraction — in most cases, both as regards composition and digestibility, the one of 85 % shows intermediate figures — it will be noticed that the proportions of protein, fat and ash constituents were largest in the 100 % flours, which on the other hand, showed the smallest relative amount of carbohydrates. As regards the content of raw calories the flours of 100 % extraction were also somewhat superior. The breads from the different flours, made in such a way as to afford comparison, bear, as will be seen, the same relation to one another as the flours in respect to proportions of nutrients.

According to the results of the digestion experiments, it is, however, the finer flours and breads from which the body obtains not only more carbohydrates but also the larger amount of proteins and calories. Although the including of the bran and germ increases the percentage of protein, it has been shown that it decreases its digestibility owing to the fact that the cell walls enclosing the bran-proteins largely escape the action of the digestive fluids. To the stimulating effect of the bran and the germ on the peristaltic action, which somewhat hastens the passage of the food through the digestive organs, is no doubt also due in part the less digestibility of flours containing more of the outer layers of the grain.

Between the energy obtained by the body from a given quantity of flour of 100 % extraction and one of 72 % the difference is by no means unimportant. It amounts, as will be noticed, to about 300-400 calories per kilogramme in the case of flours and to about 350-500 calories in the case of breads. The superiority, weight for weight, of white flour and bread as far as concerns the amount of protein, carbohydrates and calories furnished to the body, is hence perfectly evident.

To break off the comparison at this point, as is usually done, is however misleading. This may have been justified as long as it was believed as a consequence of digestive experiments wrongly carried out, that the nutrition value contained in bran could only be very imperfectly utilized by the human digestive apparatus, but very well by that of the pig and the cow. At the present time, however, when it is known from the experiments undertaken by Hindhede and verified by several other investigators that bran is digested by man equally well as by the pig and nearly equally well as by the cow it is impossible to leave out of consideration the important fact that by milling, say, 100 kilogrammes of grain into whole meal practically 100 kilogrammes of flour is obtained, but by milling the same amount into white flour of, for example, 72 % extraction only 72 kilogrammes of flour are recovered. The rest of bran and germ is used as feed, the energy value of which is only to a small extent regained in the shape of fat and meat. If it is desired to ensure reliability in the comparison we must go a step further and demonstrate whether the consumption of, say, 1 kilogramme of grain, is more econom-

ically effected from the standpoint of human nutrition if that kilogramme is baked into whole meal bread or if it is distributed into 720 grammes of white flour made into bread and 280 gm. of bran and germ converted into, say, pork. As seen from the table respectively 3,424, 3,559 and 3,510 calories are supplied to the body from 1 kilogram of flour of 72 % extraction. From 720 grammes of the same flours respectively 2,465, 2,562, and 2,527 calories may then be obtained, *i. e.* respectively 647, 644, and 597 calories less than received from 1 kilogramme of flour of 100 % extraction. In order further to calculate how many calories according to the chemical analysis (*i. e.* raw calories, not utilized calories) are present in 280 grammes of bran and germ separated by the production of 720 gm. of white Minnesota, Oregon or Oklahoma wheat flour, we have to subtract from the number of raw calories in 1 kilogram of flour of 100 % extraction the number of raw calories contained in 720 gm. of white flour, giving the result that in the said quantity of bran and germ from the three different kinds of wheat respectively 1,133, 1,059 and 1,144 raw calories were present. Used in pigfeeding this bran and germ would, as shown earlier in this article, restore about 15 % of its energy value as human food in the shape of pork, *i. e.*, in this case respectively 170, 159, and 172 calories. Assuming that these calories, as being of animal origin, are practically wholly utilized by the human body, the total amount of energy available from 1 kilogramme of Minnesota, Oregon, and Oklahoma wheat in the shape of 720 gm. white flour and a certain small quantity of pork would then be equal to respectively 2,635, 2,721 and 2,699 ($2,465 + 170$; $2,562 + 159$; $2,577 + 172$) calories. The total loss of human food as a consequence of the sifting out of the bran and the germ and using them as feeding stuff would then amount to 477, 485, and 425 ($3,112 - 2,635$; $3,206 - 2,721$; $3,124 - 2,699$) calories for every kilogramme of grain, or in other words about 15 % of its total energy available to the human organism.

Though the digestibility of a certain foodstuff may vary not only according to its own chemical composition and physical consistence, but also according to the other foodstuffs eaten at the same time, the varying digestive capacity of the individuals, etc., it would appear, judging also from other experimental results (1), that with the milling practised today, by which in many countries not even 72 but only 70 % or less of the grain is recovered in the flour, at least 15 % of the world's whole wheat crop is wasted, and wasted not by using a cheap but a most expensive and elaborate method, involving immense amounts of capital and labour.

Although about 35 % of the grain has to be extracted in order to make a bran-free flour of rye, the average loss in energy value caused by the modern milling of this grain is probably about the same, as rye, to a relatively greater extent than wheat, is also consumed either in the shape of whole meal bread or a bread made from flour from which only a relatively small percentage of bran has been extracted.

The consumer buying bread receives of course, as will be seen from the lower part of the table, a less amount of nutritive value in one kilogramme of bread made from flours from which a smaller percentage of bran has been removed. In

(1) In order to show that the results of the digestibility of different flours given in the table above are in accordance with the results of other investigations, it may be enough to state the average results of all the experiments with different flours undertaken by the United States Department of Agriculture and described in the bulletins mentioned above. The coefficient of digestibility amounted, by averaging 31 tests, to 88.1 % for protein and 95.7 % for carbohydrates in the case of white flour; by averaging 23 tests, to 81.9 % for protein and 94 % for carbohydrates in the case of flour of 85 % extraction; and, by averaging 24 tests to 76.9 % for protein and 90.6 % for carbohydrates in the case of whole meal flour.

countries where there exists a really considerable demand for whole meal bread and where this bread, as it naturally ought to be, is much cheaper than bread made of bran-free flour, this less amount of nutritive value is obviously a matter of no importance to the consumer. In 1913, one could for instance in Copenhagen for one Danish crown buy 6,452 grammes of whole meal rye-bread, 4,413 grammes of rye bread made from flour of 80 % extraction, 3,675 grammes of whole meal wheat-bread and 2,592 grammes of wheat bread made from white flour. It is otherwise of course in countries where the consumers' demand for whole meal bread is insignificant and where in consequence the bakers often charge the same or even higher prices for whole meal bread as for white bread. But even where this is the case, it may perhaps be questioned if the advantage to the consumer of the greater amount of protein and calories in the white loaf is not, to a great extent at least, counterbalanced by its less amount of vitamins and minerals and the less biological value of its protein, factors of no less importance to the organism than the amount of protein and calories (1). However this may be, the circumstance that the whole meal bread consumer in many countries under present consumption habits has to pay an unduly high price for his bread, does evidently not make less valid the conclusions drawn above as regards the wastefulness of the modern milling process, which involves also other drawbacks than loss of energy value.

By removal of the bran and the germ we also remove that part of the protein in the grain which has the highest biological value, in which in other words, the amino acids required by the animal organism are present in more well balanced proportions than in the protein contained in the endosperm. We further remove the vitamins, which in the case of wheat are only to be found in the outer parts of the grain — in rye they seem to be present to a certain extent also in the kernel — and about three-fourths of the mineral constituents, which too are largely concentrated in the germ and the outer layers. It is true that our knowledge as to the amounts necessary for human organism of different minerals, vitamins and amino-acids is still imperfect. There is however enough evidence that where bread or other cereals product are the chief articles of food, the consumption of bran-free products involves serious dangers to human health, and moreover it can scarcely be doubted, that a larger use of coarser flours is desirable also where a mixed ration of wide variety of food is used. Where, as in modern civilized society and especially in the cities, natural food in natural conditions every day are becoming more difficult to obtain, where the food eaten is largely made up of branfree bread, canned meat, sterilized milk, tinned, bottled, or dried fruits and vegetables and where in the household vegetables are cooked to the point of almost total extraction of vitamins and minerals, variety alone in consumption will not be enough to prevent diseases caused by lack of these stuffs in the food. Pronounced "deficiency diseases", like beri-beri, etc., may be rare; border line cases, though escaping observation, may be abundant.

Another fact of importance for the question of whole meal bread versus white bread remains; the stimulating effect of the former on the peristalsis, attributed in part to mechanical irritation caused by the branny particles, in part to the laxative property of the oil in the germ and of the phytin, one of the phosphorous compounds in the bran. This effect is often stated as a drawback of whole meal bread as it hastens the passage of the food through the digestive tract, thus pre-

(1) It is scarcely necessary to point out that where the ordinary daily bread is made up of whole meal rye or wheat bread, a certain consumption of white bread would be both useful and desirable in order to give the necessary variety in the diet.

venting its nutrients from being as well absorbed as in the case of white bread. Though this is true, the loss in nutrition value caused in this way is not, as has been already shown, to be compared with the loss in energy caused by removing the bran with its vitamins and minerals, while a further consideration is the beneficial influence in promotion of peristalsis for the health of civilized mankind. It cannot any longer be doubted that habitual constipation, from which the great majority of modern society suffers, is a contributory cause in nearly all chronic diseases and that it is to the use of bran-free flours and other highly digestible, refined, "roughage" lacking foods the intestinal stagnation, practically unknown in primitive races, is mainly to be attributed.

Whole meal bread is excellent food for human beings, readily tolerated by their digestive organs. Exceptions due to diseased or weakened alimentary tracts do not prove the contrary, especially as in most cases such weakened tracts may by training become once more normal. That whole meal bread is well tolerated even by the spoilt consumer of today, the Danish bread policy during the world war has demonstrated on a large scale. While in other countries it was discussed whether the grain should be milled to yield 70, 80, 90 or 95 % of sifted flour, in Denmark the rye was not only milled to a flour of 100 % extraction, but to this was also added all the wheat bran produced and 24 % of the barley meal (milled to 90 %), and in this way twice the amount of bread was available in the country than if the extraction had been 70 % only. Moreover it may be emphasised that a good bread was baked with this mixture, people raised no complaints and there were no digestive troubles.

The loss in energy involved in feeding bran or whole rye and wheat to animals, taken together with the much more considerable, though to some degree inevitable, loss caused by using other grains (*e. g.* maize), potatoes and other excellent foodstuffs as feed (1) or for industrial purposes, may be regarded as a very serious waste of the energy available for human beings and — what is worse — of human life and happiness. It is almost self-evident that if civilized man were to retain in his diet only a minimum of the meat element, mainly on account of its acknowledged stimulating qualities, and for the rest to return to the simple mainly lacto-vegetal diet on which his forefathers lived not long ago he would be relieved of an immense amount of drudgery and toil and be left with time and energy for other and nobler pursuits than the desperate fight for daily food.

H. L.

* * *

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The Fourth Session of the Mixed Advisory Agricultural Committee

The Mixed Advisory Agricultural Committee, which consists of an equal number of representatives of the Permanent Committee of the International Institute of Agriculture and of the Governing Body of the International Labour Office,

held its Fourth Session in Rome, on the 7th, 8th and 9th November. The representatives of the International Institute of Agriculture were: His Exc. G. DE MICHELIS, President of the Permanent Committee, Delegate of Italy; M. LOUIS-DOP, Vice-President of the Permanent Committee, Delegate of France and of the French Colonies; M. F. BILBAO, Delegate of Spain; M. C. BREBBIA, Delegate of the Argentine Republic, Dr. J. J. L. VAN RIJN, Delegate of the Netherlands and of the Dutch East Indies; M. E. J. ROVIRA, Delegate of Uruguay (substitute). Prof. E. PORN, Delegate of Rumania (substitute), was also present. The representatives of the International Labour Office were for the Government Group, Mr. W. A. RIDDELL, Advisory Officer of the Dominion of Canada, substitute for M. Arthur FONTAINE, Chairman of the Governing Body; for the Employers' Group, Dr. J. LECOCQ, Secretary General of the International Federation of Employers, replacing F. HODAC, and M. G. OLIVETTI, Secretary General of the National Fascist Confederation of Italian Industry, replacing M. OERSTED; for the Workers' Group, M. Hermann MÜLLER, of the German General Federation of Labour and M. M. SCHÜRCH, Secretary of the Swiss Syndical Union. The following were present as observers: Count Luca PIETROMARCHI, representing the Secretariate of the League of Nations; Mr. Cyril KERR, representing the International Management Institute, and M. Luciano DE FEO, representing the International Bureau of Educative Cinematography. The Chair was taken by M. DE MICHELIS, and Mr. RIDDELL was appointed reporter.

The following is the text of Mr. RIDDELL's report, which will be submitted to the Permanent Committee of the International Institute of Agriculture and to the Governing Body of the International Labour Office for their approval.

1. *The Rural Exodus.*

2. *Rural Housing.*

The Committee agreed in stating:

(1) that these questions should be studied both in their economic and social aspects and that they were closely interrelated;

(2) that as regards the rural exodus accurate and comprehensive information is lacking and that studies which have hitherto been made have tended to describe it in general terms rather than to analyse its nature or to measure its extent; that the question was somewhat complicated by the fact that the characteristics and extent of the rural exodus varied from country to country and from region to region;

(3) that within certain limits it should be conceived as a normal phenomenon of present day development in agriculture and industry and not necessarily as something abnormal or injurious, but that, outside these limits, it nevertheless has its pathological aspects.

The Committee was of the opinion that the advance in agricultural processes and especially their mechanisation necessitates a shrinkage in the agricultural labour force and a complementary addition to industrial labour, supplying the tools and equipment for the new agricultural processes. Consequently the rural exodus is the concern of all who contribute to production whether on the agricultural or industrial side; more especially has it direct bearing upon the conditions of wage earners in both agriculture and industry. It is necessary therefore to study the problem of the rural exodus in its relation to the balance between agriculture and industry reached at any particular time in each country.

It was also pointed out that the rural exodus applied to all classes of the rural community, including landlords and owner-occupiers.

In consequence the Committee recommended :

1. That the work of the two institutions — apart from any question of their respective competencies — should be directed towards the objects indicated above, it being understood that the principal responsibility for the studies contemplated shall be with the International Institute of Agriculture.

2. That it is, at the outset, very important clearly to define the rural exodus and to delimit strictly the questions capable of being studied on the international plan.

3. That the existing documentation be considered, with a view to the extraction of the material essential to a distinction between the physiological and the pathological phenomena.

4. That a comparative examination be undertaken of the methods followed in constructing the population census in the different countries, with the object of indicating, so far as possible, to the Governments the information that it would appear practicable and possible to request with the view of obtaining a fuller knowledge of the phenomena relating to the agricultural population.

5. That in the economic and social study of the rural exodus, the method of monographs should be adopted. More exactly, three or four zones of the rural exodus in the pathological sense should be chosen and the study of these zones made on the spot in collaboration by one technician from each of the two institutions, on the basis of a programme previously drawn up by agreement between them.

6. That as regards the question of rural housing, it is desirable that it should be further handled in collaboration between the International Institute of Agriculture, the International Labour Office, the Health Organisation of the League of Nations and the International Institute of Hygiene at Paris. In this connection the Commission contemplated the holding a meeting of representatives of these institutions.

3. Propaganda by means of the Rural Cinema.

The Committee took note of the reports presented by the two Institutions and of the understandings reached by each of them with the International Institute of Educative Cinematography of the League of Nations.

It expressed the desire that the International Institute of Educative Cinematography of the League of Nations should be requested to supply both Institutions with a memorandum on its possibilities of service in the fields of agricultural instruction, the prevention of accidents in agricultural work and the employment of agricultural workers' spare time. This memorandum, which should be drawn up in consultation with the Mixed Advisory Agricultural Committee, should be addressed to the competent Department in the different countries.

4. Vocational Agricultural Education.

5. Consideration of the proofs of the report prepared by the International Labour Office on Vocational Agricultural Education.

The Committee took note of the proofs of the report by the International Labour Office on vocational agricultural education which appeared to be very complete. It considered however that there still remains a wide field to be covered in agricultural education in its various aspects including for example its content, methods and influence on production, a sphere to which the International Institute of Agriculture is naturally required to devote its attention.,

The Committee was also of opinion that an International Congress of Agricultural Education, to be called at a suitable date by agreement between the two Institutions, would be of real value in furthering the objects that they have in view in this connection and for agricultural progress in general.

6. *International Year-book of Agricultural Organisations.*

The Institute undertook some years ago to have published an *International Yearbook of Agriculture*, and addressed the different international organisation with a view to securing their collaboration either in the preparation or in the sale of the Yearbook.

The International Labour Office has already decided in principle to give its support to the International Institute of Agriculture and to hand over to it the part relating to the unions of agricultural workers or persons engaged in agriculture.

The Committee was informed that the International Institute of Agriculture would prepare the table of contents and make an estimate of the necessary expenses for the publication of the Directory. Afterwards it will place itself in touch with the International Labour Office to ascertain in what way this body can associate itself with either the preparation or the expenses, or at least can undertake to place a certain number of copies.

7. *Agrarian Reform.*

The Committee took note of the work done by each of the two Institutions.

It was recommended in this connection that the two Institutions should inform each other of any special missions entrusted to members of their respective staffs for the first hand study of the questions proposed for joint treatment, in order to avoid the possibility of overlapping.

8. *Agricultural Co-operation.*

After an exchange of views on this subject the Committee was of opinion that the time is ripe to take joint action with a view to bringing about agreements between agricultural producers' co-operative societies and consumers' co-operative societies.

In this connection the Commission called to mind the resolution adopted by the World Economic Conference of the League of Nations in favour of convening for this purpose a special Joint Committee, and requested His Exc. M. DE MICHELIS and Mr. RIDDELL, Chairman and Reporter of the Committee, to address a letter to the League in the name of the Committee for the purpose of drawing its attention to the desirability of calling a meeting of this special joint committee for an early date.

The Committee approved the text of the following letter which was addressed to Sir Eric Drummond:

MIXED ADVISORY AGRICULTURAL
COMMITTEE

9 November 1929

Sir,

The Mixed Advisory Agricultural Committee, formed to coordinate the work of the International Institute of Agriculture and the International Labour Office has just held a meeting in Rome, at the seat of the Institute, in the course of which

it has discussed the question of agricultural co-operation and more particularly the question of the relations between co-operative societies of agricultural producers and consumers' co-operative societies.

The resolution adopted on this question in 1927, by the World Economic Conference of the League of Nations and the resolutions subsequently adopted by the Economic Advisory Committee were considered, and the Committee instructed its Chairman and its Reporter to write to you in its name and to draw your attention to the desirability of holding a meeting at an early date of the Committee of representatives of national and international farmers' and consumers' co-operative organisations contemplated by those resolutions.

The Mixed Agricultural Advisory Committee is of opinion that such a meeting might contribute largely to the solution of this problem and asks the Secretary General of the League of Nations to be good enough to bear in mind the collaboration which the International Labour Office and the International Institute of Agriculture could give in this matter. We are sure that the Secretariate of the League of Nations will not fail to take account of the desire which we express in the name of the Mixed Advisory Agricultural Committee. — Yours faithfully,

DE MICHELIS, *Chairman.*

W. A. RIDDELL, *Reporter.*

9. Relation of Labour Cost to Production Cost in Agriculture.

The International Institute of Agriculture supplied the Committee with information regarding its scheme of enquiries in view of the preparation of international statistics based on Farm Accountancy. As a result of this enquiry it may be hoped that it will be found possible to deduce the proportion of labour cost in cost of production.

In this connection reference was made to the question of a comparative study of agricultural wages in the different countries as suggested by the Agricultural Economic Committee of the International Institute of Agriculture, and the Committee was of opinion that it was desirable to refer this question to the next meeting of the Mixed Agricultural Advisory Committee. The question of method raises serious difficulties which it is desirable to clear up before embarking on any detailed study.

10. Hours of Work in Agriculture.

According to the view of the Committee the two Institutions should be free to deal with this question each on its own account and from its own standpoint. In order to obtain its documentation, the International Institute of Agriculture might properly request the Agricultural Associations with which it has established relations to give their reasoned views on the technical aspects of the question.

II. Scientific Organisation of Agricultural Labour.

The Committee took note of the communication of the Institute, announcing its intention to carry out local enquiries for the purpose of drawing up a monograph on the technical and economic aspects of scientific management in agriculture in accordance with the terms of the resolution passed by its Agricultural Economic Committee.

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[Following on an examination of the conditions of the economic expansion, a study is made of the means by which it is accomplished. Successive chapters deal with population, raw materials, capital resources, technique, labour and the economic policy of the movement ; a description follows of the forms taken by the economic expansion, emphasising in particular agriculture and industry. Part IV of the work is devoted to problems of international politics].

BERNHARD Hans, KOLLER A. und CAFLISCH Ch. L. Studien zur Gebirgsentvölkerung. No. 4. Beiträge zur Agrargeographie, Bern 1928, 286 p. 7 maps and graphs. Geographischer Kartenverlag Kummerly & Frey.

[The authors of this work who represent the Swiss Union for Home Colonisation and Industrial Agriculture, Zurich (*Schweizerische Vereinigung für Innenkolonisation und industrielle Landwirtschaft*) carried out in 1928 detailed and personal enquiries into the facts of depopulation in 60 mountain communes selected in different regions of Switzerland. The report submitted to the Federal Expert Commission for the Study of Depopulation of Mountain Districts (*Eidg. Expertenkommission zum Studium der Gebirgsentvölkerung*) is reproduced as Part III of the whole work. Part II is a study based on census records and on detailed observations by a number of writers of the same phenomena throughout the whole of the Alpine region, the facts being grouped by reference to the upper valleys of the rivers.

These studies are prefaced by some account of the special character of depopulation in mountain districts and its economic aspects, e. g., the effect on meat production. The concluding section deals with the remedies proposed. The work contains bibliographies of great value, and maps coloured to show the varying ratios of the depopulation in different regions of Switzerland and within a series of decades from 1860 to 1920, also a map and graphs illustrating the depopulation of the whole Alpine area.

OLIVIER (Lord) : The improvement of negro agriculture. *Journal of the Royal Society of Arts*. Vol. LXXXVII, No. 3980. London G. Bell and Sons. 1 March 1929.

[The economic development of the typically "African" agriculture of the negroes in Jamaica is traced, with its gradual transformation mainly under the auspices of the Jamaica Agricultural Society into an intelligent and scientific system of profitable production. A useful parallel is drawn with Kenya which resembles Jamaica in having been settled as a "white man's country" with commercial crops relying on negro plantation labour. It is pointed out that it remains essential that the negro should have every facility for growing his own food crops and should be encouraged to improve his methods. Attention is drawn to the fact that the banana, the export crop which restored prosperity to Jamaica, was originally merely a negro food crop.

SAUER Hans. Kartellierungsbestrebungen in der deutschen Landwirtschaft. Kirchheim V.-L., Zahn u. Baidel. 1929, 148, S.

The author examines the previous attempts at forming cartels in German agriculture, and comes to the conclusion that the want of success was due to personal and in particular practical reasons, which make it improbable that a cartel in agriculture would be workable. The personal reasons are equally on the side of the producers as on that of the traders and consumers. The practical obstacles are felt by the author to lie in the dependence on natural conditions of agricultural processes, in the price formation of agricultural products which differs from that of industrial products, in the necessity for great variety in agricultural production and in the conditions of the marketing problem which differ from those of the marketing of industrial products.

AGRICULTURAL LEGISLATION

Recent Marketing Legislation in the Australian Commonwealth.

During the last twenty years a considerable amount of legislation has been passed by the Commonwealth Government of Australia on the marketing of primary products and on the maintenance of a reputable standard of these products, especially

when directed to foreign markets. The vast responsibilities assumed by the Government in this connection led to the creation in 1925 (Commonwealth Gazette, 19 January 1925) of a special Department of State which took over the functions hitherto exercised by the Department of Trade and Customs relating to marketing.

By notification in the Commonwealth Gazette of 1 March 1928 the original title "The Department of Markets and Migration" was changed to "The Department of Markets" and by notification in the Gazette of 10 December 1928 was changed once more into "The Department of Markets and Transport".

The main features of this Commonwealth Department of Markets are, according to the Minister, the Hon. T. Paterson:—

- (a) the supervision over and control of the grade and quality of goods exported;
- (b) the organisation of oversea marketing and the control of trade publicity abroad; and
- (c) the collection and dissemination of commercial information.

The staff of the Department, we are told, consists of 125 permanent officers, 21 officers being engaged on administrative work and 114 officers stationed at the various ports of the Commonwealth exercising supervision over exports. The Department is also assisted in the supervision over exports by officers of each State Department of Agriculture. So far the Department does not concern itself with inter-State trade. The power to legislate on these matters, reserved to the Commonwealth under the Constitution has not been exercised by it. The Department therefore only deals with goods exported or intended for export. In addition to co-operating with the Agricultural Departments of the various States the Marketing Department also avails itself of the assistance of the Commonwealth Council for Scientific and Industrial Research, and of the Development and Migration Commission. It also keeps in close touch with the various Boards set up for the exportation of home products and collects information of an agricultural and commercial character which is made available to Australian farmers through the intermediary of the farmers' organisations and the press. The Department however finds its chief mainstay in the organisations of primary producers which the Commonwealth Government has by legislation and otherwise constantly furthered during recent years, and more particularly in the boards for the control of exports connected with these organizations and provided for by Statute. It may not be without interest to glance at some of the statutes by which these export control boards were created and the field in which they operate.

This legislative movement find its formal starting point in the "Act relating to the Export of Dairy Produce" which was assented to on 20 October 1924. The chief object of this "Dairy Produce Export Control Act" is to set up a Dairy Produce Export Control Board. The Board, according to Art. 4 is to consist of a Government representative, "two representatives each of the States of Queensland, New South Wales and Victoria, and one representative of each of the States of Tasmania, South Australia and Western Australia elected by the boards of directors of co-operative butter and cheese factories in each of these States, two representatives elected by the boards of directors of proprietary butter and cheese factories and one member appointed by the Governor General as the representative of persons engaged as sellers of dairy produce out of the Commonwealth whether as agents or on their own account". Succeeding articles provide for the appointment of the Chairman, the rules of procedure during meetings, and for the creation of an executive committee of the Board. This committee shall (art. 11) consist of the Chairman of the Board and of four members elected annually.

The purpose of the Board according to Art. 14 is to "control the export and the

sale and distribution after export of Australian dairy produce". With this object the "Governor General may by proclamation prohibit the export from the Commonwealth of any dairy produce except in accordance with a license issued by the Minister subject to such conditions and restrictions as are prescribed after recommendation to the Minister by the Board". The Board may according to art. 15 report to the Minister any cases of persons to whom a license of this kind has been granted contravening or failing to comply with any term or condition upon which the license was granted. Further, in virtue of art. 17 the Board may itself "accept control of any dairy produce placed under its control for the purposes of this Act". In order to make its supervision over exports still more effective the Board is given the exclusive right of concluding contracts for the shipment of dairy produce.

The limits of the Boards' functions in respect of dairy produce controlled by it are fully set forth in art. 20 which lays down that "The Board shall with respect to any dairy produce placed under its control, have full authority to make such arrangements and give such directions as it thinks fit for the following matters:— (a) The handling, marketing and storage of the dairy produce; (b) the shipment of the dairy produce on such terms and in such quantities as it thinks fit; (c) the sale and disposal of dairy produce on such terms as it thinks fit; (d) the insurance against loss of any dairy produce either in the Commonwealth or in transit from the Commonwealth and until disposed of and (e) all such matters as are necessary for the due discharge of its functions in handling, distributing and disposing of the dairy produce". In order to facilitate its functions under this Act the Board is empowered in virtue of art. 26 to "call upon any person to furnish within such time as is specified by the Board, such returns in relation to the dairy industry as are necessary for the purposes of carrying out this Act".

The expenses and other charges incurred by the Board are, according to Art. 22, to be paid out of the Dairy Produce Export fund created by the preceding section of the Act. This fund is to be recruited from the charges levied on all dairy produce exported from the Commonwealth in pursuance of the Dairy Produce Export Charges Act of 20 October 1924.

On the same day as the assent was given to the Dairy Produce Export Control Act, another Act bearing marked resemblances to it was placed on the Statute Book. This is the "Dried Fruits Export Control Act" setting up a Dried Fruits Control Board organized on practically the same lines as the Dairy Produce Control Board considered above. In the actual composition of the two Boards there are however some important differences. While in each of them the Commonwealth Government is represented by a single member, the various States are, for example, represented on a different footing. Whereas as stated above the Dairy Board contains two members elected to represent the States of Queensland, New South Wales and Victoria and one to represent the States of Tasmania, South Australia and Western Australia, the Dried Fruits Board contains (art. 4 of the Dried Fruits Export Control Act) three representatives of the States of New South Wales, Victoria, and South Australia and one of the State of Western Australia. Secondly unlike the representatives on the Dairy Board who are elected by the boards of directors of co-operative butter and cheese factories, the representatives on the Dried Fruits Board are elected "by the growers". There is in the Dried Fruits Board no member appointed by the Governor general to represent sellers of dried fruits produce as in the Dairy Board, but provision is made for "two members with commercial experience". The Standing Orders of the Dried Fruits Boards are on the same lines as those of the Dairy Produce Board, but in the case of the former Board no provision is made for the establishment of an Executive Committee. Power is given to the Governor General

to prohibit the export of dried fruits (as of Dairy Produce in the case of the Dairy Produce Control Act) except in accordance with a license, as well as to the Board to accept control of any dried fruits placed under its control, (articles 13 and 15 of the Dried Fruits Export Control Act). Again the Board may be granted the exclusive right of concluding contracts for the shipment of dried fruits (art. 18) in the same way as the Dairy Produce Board may be granted this power in the case of dairy produce. Art. 19 of the Dried Fruits Export Control Act give to the Dried Fruits Control Board exactly the same powers in respect to dried fruits as the Dairy Produce Export Control Board give to the Board set up by it with respect to dairy produce. In fact the relative article in the Dried Fruits Export Control Act (art. 19) is identical with the corresponding article (art. 20) of the Dairy Produce Export Control Act quoted above except of course for the substitution of the term "dried fruits" for the term "dairy produce". Again a Dried Fruits Export Fund similar to the Dairy Produce Export Fund is constituted to be recruited from the levy on dried fruits instituted in pursuance of the Dried Fruits Export Charges Act of 1924. This fund is to be chiefly used (art. 21) "in payment of the expenses and other charges incurred by the Board or for which the Board may become liable in the course of its business". The Dried Fruits Board is like the Dairy Produce Board given power (art. 25) "to call upon any person to furnish within such time as is specified by the Board, such returns in relation to the dried fruits industry as are necessary for the purposes of carrying out this Act".

One important provision is to be noted in connection with both of these Acts whereby they are not to come into operation unless they meet the approval of the classes they are meant to protect. Thus Art. 2 of the Dairy Produce Export Control Act provides that the essential sections of the Act are not to come into force "unless and until, at a poll of producers taken in the prescribed manner throughout the Commonwealth, a majority of votes have been given in favour of the Act being brought into operation". Similarly Art. 2 of the Dried Fruits Export Control Act provides for an analogous poll of growers. As regards their operation the two Acts present a slight difference from another Act which is in other respects plainly modelled upon them. This is the "Fresh Fruits Overseas Marketing Act" assented to on 8 April 1927. The difference consists in the fact that in the case of the last mentioned Act the growers may, after a trial period lasting three years, vote for its repeal. Thus Art. 3 of the Act lays down that (1) "If, within one month after this Act has been in operation for a period of three years, or within one month after the expiration of any further period of three years, a requisition for a poll signed by at least three hundred growers is sent to the Minister, a poll shall thereupon be held in the prescribed manner in regard to the question whether the Act shall continue in operation. (2) If a majority of the growers voting at the poll are opposed to the continued operation of the Act, the Act shall cease to have effect upon a date to be fixed by Proclamation, not being later than one month after the result of the poll has been ascertained". For the rest the Act goes on to set up a "Fresh Fruits Overseas Marketing Board" on the same lines as the other two Boards considered above and grants the Board in respect of fresh fruits the same powers as regards the control of license-holders, contracts of shipment, marketing, shipment, sale and insurance, etc. as are enjoyed by its predecessors in respect of dairy produce and dried fruits. A Fresh Fruits Exports Fund is also set up, to be recruited from levies on fresh fruits which are authorized by the Fresh Fruits Charges Act 1927. In virtue of the Export Guarantee Act 1924 and the Export Guarantee Act 1925 advances made by the Commonwealth Bank or any other Bank carrying on business in the Commonwealth may be guaranteed by the Treasurer to any one of these statutory Boards "in connexion

with the financing of any scheme for the export and marketing of the produce under the control of the Board ”.

It will be realized that all the legislation so far considered here has reference only to overseas marketing. In 1928 the Commonwealth Government exercised the prerogative assigned to it by the Constitution to legislate on matters connected with trade between the various States of the Commonwealth itself. The Act in question which was assented to on 22 May 1928 is described as “ An Act relating to Trade and Commerce in certain Dried Fruits with other Countries and among the States ”. The Act (art. 3) stipulates that “ Except as provided by the Regulations (a) the owner or person having possession or custody of dried fruits shall not deliver any dried fruits to any person for carriage into or through another State to a place in Australia beyond the State in which the delivery is made and (b) a person shall not carry any dried fruits from a place in one State into or through another State to a place in Australia beyond the State in which the carriage begins unless, in either case a license has been issued under this Act permitting that carriage of those dried fruits and except in accordance with the license so issued ’. Art. 5 confers on the Governor General power to prescribe the conditions upon which licenses may be issued, the size of consignments of dried fruits for the interstate transport of which a license is issued as well as the kinds and quality of such fruits.

A. O. R.

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INTERNATIONAL REVIEW OF AGRICULTURE

PART II

MONTHLY BULLETIN

OF

AGRICULTURAL ECONOMICS AND SOCIOLOGY

LAND SYSTEMS

Agrarian Reform in Austria.

The particulars which follow of the agrarian reform in Austria have been sent to the Institute by the Federal Ministry for Agriculture and Forestry (Bundesministerium für Land- und Forstwirtschaft) in Vienna. As was the case with the articles published in Nos. 7, 8, 9, 10 and 11 of the current year of this Review on the agrarian reform in Finland, Lithuania, and Latvia, the contribution is in the form of a reply to an enquiry of the International Institute of Agriculture on the agrarian reform which was effected after the war in Central and Eastern Europe.

1. *Reasons for Agrarian Reform.* — In Austria an agrarian reform of the comprehensive kind contemplated in the enquiry was not carried out. The actual distribution of farming property, large, medium and small, is — except in Burgenland — of such a kind that drastic measures of reform or modification were not really necessary. In the latter half of last century Austrian farmers had critical times to pass through especially in consequence of the competition of the overseas agricultural products by which in particular the farmers in mountain districts were hard hit. As a result they became indebted and finally were unable to retain possession of the property they had inherited. Persons able and willing to purchase appeared in the form of large landowners, sportsmen, and sometimes also large farmers. The result was the so-called extinction of farmers (*Bauernsterben*) whereby the greater number of the mountain valleys were depopulated and many areas, in particular alpine districts, were deforested (1).

In order to check this disastrous process so far as possible, the Land Transfer Law of 1915 was passed, in accordance with which the approval of the Land Transfer Commission was required for every transfer of property and every lease over a long period.

The object of the post-war Resettlement Law was to restore so far as possible to the peasantry the land formerly belonging to them.

In Burgenland, from which there has always come a large contingent of seasonal farm workers and emigrants, the proportion of large estates has been much higher than in the other provinces of the Confederation, while at the same time there is an ever increasing sub-division through the operation of inheritance. Here

(1) See: KALLBRUNNER Hermann: The Absorption of Peasant Holdings and Legislative Efforts to Counteract it. *International Review of Agricultural Economics*. International Institute of Agriculture, Rome, No. 4, 1920, p. 270.

a tendency towards an agrarian reform on broad lines is making itself felt, although up to the present there is no legislative regulation. The Resettlement law has not come into force in Burgenland.

As the result of the war and the post-war period, it became clear that it was essential to produce in Austria itself as large a part as possible of the products required for the nation's food. It was hoped also to settle on the lands assigned for resettlement the ex-service men who were without homes or means of support.

II. *Juridic Bases of the Agrarian Reform and some Results.* — The agrarian reform accomplished is based on the Resettlement law, viz., Law of 31 May 1920, *Staatsgesetzblatt*, No. 310, with schedules of 31 August 1920, *Staatsgesetzblatt*, Nos. 445 and 446, Law of 15 July 1921, *Bundesgesetzblatt* No. 404, Order of 25 November 1921, *Bundesgesetzblatt*, No. 689 (I), The Resettlement Law of 31 May 1919 was amended in 1921. The amendments are not of any great importance.

The accomplishment of the agrarian reform rests with the agrarian authorities, the organisation of which is regulated in the Federal Law of 28 July 1925, *Bundesgesetzblatt*, No. 281.

For decisions on individual cases there are special advisory boards composed of all classes of farmers or forest workers.

Parcels of land are subject to the reform which have formed an independent farm or cottage property, or a constituent part of such, but have lost this character since 1 January 1870 and have been used for speculative purposes, or have been applied to sporting or luxury uses (sites for parks, preserves, etc.) or have become constituent parts of a mainly forest undertaking or have been combined with an agricultural property which at present exceeds the limit of a peasant holding. As such constituent parts were to be included also share rights in agrarian communities, rights of removal of forest products and pasturage rights, which have been extinguished since the above date either by amalgamation of the main and subsidiary parcels, surrender or money compensation. The parcels and the rights referred to can be expropriated in default of an agreement.

Legislation relevant to the reform includes the *Luftkeuschenablösungsgesetz*, of 26 April 1921, *Bundesgesetzblatt*, No. 273, or law relating to agricultural tenures of a certain kind, in accordance with which rented parcels, on which dwelling houses have been erected without objection from the lessor, may be expropriated (2); and also the law of 4 December 1918, *Staatsgesetzblatt*, No. 94 or that of 11 May 1921, *Bundesgesetzblatt*, No. 294, on the purchase of rented estates, in accordance with which lands formerly manorial estates and rented in pursuance of an earlier emphyteusis, quit-rent or similar arrangement may be expropriated.

In addition to the enlargement of existing peasant holdings, new ones were formed. The applicant for a property to be expropriated must in accordance with his personal circumstances and especially in respect of his technical qualifications give assurance that he will himself or with his family connections successfully farm the parcels to be expropriated, as well as carry out all obligations. The possession of capital by the applicant could be a deciding factor, only if conditions were

(1) Reproduced in the *Annuaire International de législation agricole*: Kundmachung des Bundesministeriums für Land- und Forstwirtschaft, betreffend den Text des Gesetzes über die Wiederbesiedlung gelegter Bauerngüter und Häusleranwesen (Proclamation of the Federal Ministry for Agriculture and Forestry, relating to the text of the Law on the Resettlement of absorbed peasant holdings and cottage property). Vol. XI. 1921 pp. 925-942. International Institute of Agriculture, Rome, 1922.

(2) Reproduced in the *Annuaire International de législation agricole*: Ablösung von landwirtschaftlichen Pachtgründen bestimmter Art (*Luftkeuschenablösungsgesetz*). Vol. XI. 1921. International Institute of Agriculture, Rome, 1922. pp. 920-925.

otherwise equal. The work of settlement has been facilitated by the granting of loans and subsidies out of the resettlement fund.

The expropriation of holdings or cottage property takes place in favour of the applicant who offers the highest security for satisfactory farming. *Cæteris paribus*, preference is given to ex-service men, especially wounded men and those who have given distinguished service, as well as their widows and orphans, next come parents of large families, the actual owner of the property or his children, the former tenant as well as persons who have rendered farming services on the estate. There are no special distinctions made in the case of agricultural labourers.

In certain circumstances co-operative societies could acquire constituent parts of an estate designated for resettlement, if the owner of the estate makes no proposal for expropriation or does not require the constituent part in question for the working of his property. Societies could also acquire in their entirety peasant holdings which had been absorbed.

Apart from the absorbed peasant holdings just mentioned and portions of these which had been bought up, no property was alienated from the owners.

Peasant holdings and cottage property were formed again of suitable size. About 500 former peasant holdings were re-established and about 2,200 were enlarged.

No holding exceeding the size of a peasant holding may be formed as a new holding by the resettlement procedure. The re-established farm holding or the holding which has been strengthened by the re-acquisition of former constituent parts must be such as to provide a livelihood.

A yearly average of 60,000 schilling is set aside on the Federal Budget for purposes of loans in connection with the re-established peasant holdings.

Compensation of the owner is so arranged that while it is possible for the applicant to farm the land on a satisfactory basis, he is not enriched to the detriment of the expropriated owner. The crop yields of the years 1914 to 1921 are to be taken as bases of the expropriation price. For re-establishment of extinguished servitudes a proportionate compensation was to be paid on the basis of the fresh valuation. All that is done by the authorities is to fix the expropriation price. The actual liquidation of the payment was arranged between the former owner and the applicant.

Dwelling houses and farm buildings were also expropriated, so far as they were essential to the farming operations and constituent parts of the expropriated property. The expropriation price of these was fixed at the same time as that of the land. A separate valuation was only made under special conditions. Farm stock, live and dead, was not expropriated.

During a period of 50 years, mortgages can be created only with the consent of the authorities. Generally speaking distress cannot be levied on resettled holdings except by consent of the authorities. These limitations do not apply to mortgages which are created as security for loans made by mortgage institutions. In certain cases it is possible to give or to assign an expropriated property to another applicant.

The usual sources of agricultural credit are the existing credit institutions of public utility. Personal credit to farmers is supplied through the co-operative credit associations on the Raiffeisen system which exist in nearly every commune. The Raiffeisen banks give short term working credit (up to 4 years at most), usually guaranteed by a promissory note or by sureties. Credit by bills of exchange is not in common use. Mortgage guarantee is only resorted to if there is pressing need for credit. Credit is given on the ground of personal knowledge in regard

to solvency. The rate of interest is not uniform, and generally varies between 8 and 12 per cent. In most of the Austrian provinces there are provincial mortgage institutions for mortgage credit. These are public bodies, having the financial support of the province, and supplying long term credit on mortgage bonds which are at present at six per cent. For example the six per cent. loans on mortgage credit of the Lower Austrian Provincial Mortgage Institute are for a period of 42 ½ years. Reckoning the costs of administration and the income tax charges the mortgage credit comes out at about 8 per cent. The provincial mortgage institutes observe strict rules in giving credit and on that account enjoy a very considerable power of issuing notes.

As an exceptional measure and utilising the funds of the loan made by the League of Nations with the approval of the Assembly of the League the State has set aside credit for agricultural purposes, on the one hand short term credit for the purpose of co-operative supply of artificial fertilisers, seeds and insecticides, etc. the interest on these loans being 5 ½ per cent., and long term credit for the establishment of co-operative dairies at 6 per cent.

In the course of carrying out the agrarian reform attention must be paid to suitable rounding off of parcels (1). Quite apart from the agrarian reform there are provincial laws relating to consolidation. Consolidation is effected on application of the parties concerned or in accordance with official order. It takes place on the proposal of the parties, if the number of persons making the proposal is that prescribed in the relevant provincial legislation. As a rule agreement between half the number of persons concerned is sufficient, even one-third according to some provincial legislation on the question, if the persons included represent property to be subject to this procedure net return of which according to the cadastral survey is more than half that of all the property in the district. The provinces meet the personal and technical demands of the agrarian authorities for consolidation; the interested parties discharge liabilities falling on them, pay for the boundary marks, the costs of the joint lay out improvements so far as they are not covered by grants, see to the farm stores, simple implements and tools. Parcels of building land are excluded from consolidation. Any removal of dwelling houses or farm buildings can only be carried out with the consent of the interested parties, but it is only in isolated cases that this comes into effect.

The convenience of the new distribution of lands already justifies its maintenance. The transfer of land is regulated by the Land Transfer Law of 13 December 1919, *Staatsgesetzblatt*, No. 583, so that so a sufficient check can be kept on sales which lead to a further splitting up of property.

The actual working of the agrarian reform was such that the applicants for land generally became the owners. In a few cases only were easements and, by agreement, long leases arranged.

Without the consent of the agrarian authorities expropriated parcels cannot be alienated or leased to any other persons than the wife (or husband), relatives or relatives-in-law in the ascending or descending line, or brothers or sisters, or the joint owners.

The type of the new settlement, whether a village or a farm settlement, depends on the position of the re-established peasant holding.

There is no special restriction on the new owner as regards enlargement of his property. Usually the acquisition of other landed property is permitted only under

(1) See: KALLBRUNNER H: The Progress of Land Reorganisation. *International Review of Agricultural Economics*. International Institute of Agriculture, Rome, 1924, No. 4, p. 636.

the Land Transfer Law, if the purchase or sale of such property does not run counter to the public interest in respect of the maintenance of an efficient farming population.

Questions of succession are usually regulated in farming families by the general civil law. In Tirol and Carinthia there are separate prescriptions on the subject (*Anerbenrecht*).

Resettlement has been carried out except in a few cases still pending.

FARM ECONOMICS

Agricultural Index-Numbers and Farm Accountancy.

For the agricultural situation the determining factor is in the long run not the absolute but the relative height of prices, the purchasing power of agricultural products. As compared with the pre-war time the course of the purchasing power in recent years was unfavourable in nearly all countries and thus gave occasion for a more careful observation of the course of prices for agricultural products. It is due to the complicated nature of the questions arising in this connection that there has been so much delay in arriving at a just appreciation of the significance and effect of the price fluctuations in respect of separate products or farm requisites. Even at the present time it is considered sufficient in most countries to indicate the purchasing power of agricultural products by means of comparison of the agricultural and industrial price index-numbers as these appear in the wholesale price index-numbers. It is felt that a notion thus gained must be inadequate, and index-numbers representing taxation, interest and personal requirements etc., have been added. The objections against the comparison of two items of a wholesale index are so frequently urged that they need not be repeated here. It was as a result of these objections and the general criticism that there originated the demand for the calculation of agricultural index figures.

The construction of a true agricultural index is however fraught with great difficulties, so that it is only to be found in a few countries and even then only in a very imperfect form. The obtaining of the data on which to base the compiling of receipts and expenditure and the establishment of the weighting for the constitution of the index are tasks of considerable difficulty.

If the index-numbers are merely intended to indicate something in regard to the position of agricultural production without any reference to the situation of the farmer, indices of receipts and expenditure will be sufficient. But an index calculated in this manner does not really give us satisfactory information on the agricultural situation, since the whole of the production costs cannot be included, and such an index tells us nothing of the farmer's position, while the position of agriculture and that of the farmer cannot properly be separated. A more favourable price development of the receipts and as consequence a more favourable farming result do not mean an improvement in the position of the farmer, for this depends much more on what purchasing power is possessed by the surplus produce for meeting the charges on the net return (taxes, interest, rent) and for the satisfaction of personal requirements. Even if all these questions are successfully answered by means of a system of index-numbers, there are still not included changes in cropping, advances in technique and in farm management, increase or diminution of productivity. There remains farm book-keeping which gives the most reliable numerical data in regard to the situation of agriculture and renders possible the comparison

of two different points in time. Meanwhile farm book-keeping is still too little developed in the majority of countries, and in but few has a uniform statistical elaboration of accountancy results been achieved. The International Institute of Agriculture regards it as its task to encourage an extension of farm accountancy and to promote the introduction of uniform definitions and systems, with the object of making possible an international comparison of the situation of agriculture on the basis of accountancy results. Accountancy will of course never be in a position to show results in a short time. In this respect the index-number will supplement accountancy results. The practical value of good index numbers, in which prices and weightings approach actual conditions as nearly as may be, can in no way be doubted; price comparison must in future be based upon index-numbers. Good index-numbers are however only to be obtained by careful compilation of a large scale, the best type of these returns being those furnished by accountancy. The significance of the index for the establishment of agricultural conjuncture must not however be overestimated. In the literature of the subject the view is often expressed that index-numbers at any given time supply a concise summary of the position of agriculture, and even of its tendencies; this is rather an exaggeration. In those cases where it is a question not of single crop farming but of mixed farming, an index calculated monthly will in many cases scarcely indicate the real situation of agriculture which can only be shown by an index relating to the whole farming year.

Starting from the fact that a comprehensive accountancy material is especially suited for the calculation of agricultural index-numbers, the Agricultural Sub-Committee of the Inquiry Committee in Germany (*Landwirtschaftliche Unterausschuss des Enquete-ausschuss in Deutschland*) considers it appropriate to apply to the purpose of index calculation the large number of accountancy results which are available in prepared statistical form. The method of calculation was established in collaboration with the German Council of Agriculture (*Landwirtschaftsrat*) which will in future continue the investigation, and also with the Department of Statistics (*Statistisches Reichsamt*), which supplied a large proportion of the basal statistics of prices and wages.

In the first place the bases of price statistics were prepared, and index-numbers were calculated for the separate commodities, the base period being generally the three years from the middle of 1911 to the middle of 1914. These index-numbers were then placed on the receipts side for the following groups:

- Cereals
- Potatoes
- Sugarbeet
- Cattle
- Pigs
- Sheep
- Milk and dairy products
- Alcohol.

Prices were taken from the announcements of produce markets, Chambers of Agriculture, etc., accountancy results and special enquiries. In combination of the prices in these groups account is taken of the weight of the separate factors, as for example the proportion of each kind of cereals on the cereal market, etc.

In respect to expenditure a distinction is made between farm requisites of industrial origin and other types of expenditure. Farm requisites of industrial origin include:

Fertiliser
 Fuel
 Upkeep of buildings
 Upkeep of dead stock
 New buildings and new fittings of large machines
 Other material of industrial origin.
 Other expenditure is distributed as follows :
 Wages in cash
 Housekeeping
 Feeding stuffs
 Insurances
 General farming expenses
 Charges resulting from social legislation
 Taxation.

Contributions to social insurance are paid separately from the cash wages and are included under a separate heading. Fifty per cent. of the general farming expenses have been taken as "Other material of industrial origin". The prices are taken from different sources. Grouping is effected after consideration of the weight of the separate proportions.

The weights of the separate items of receipts and expenditure were taken in the case of the large farms from the accountancy results for the years 1924-25 to 1925-26, for the peasant farms from the average results of the three years 1924-25 to 1926-27. The receipts and expenditure for commodities which only circulate in agriculture itself are excluded from the determination of the weights. The price changes involved therein were excluded from the percentage figures obtained, accordingly the percentage proportions of the receipts and expenditure were divided in each case into the price-indices of the respective products or farm requisites. The values thus reached, expressed as hundredths of their total, are the weights with which the separate groups enter into the index-number.

The investigations were extended to 18 farm groups. The following table shows the distribution of these in Eastern and Central Germany and according to the two size categories and the various farming systems :

	Size class. ha.	Number of farm groups				
		Sugarbeet farms	Potato farms	Cereal farms	Forage crop farms	Distillery undertakings
Eastern	20-50	1	1	1	1	—
Germany	over 100	1	1	1	1	1
Central	20-50	1	1	1	1	—
Germany	over 100	1	1	1	1	1

The result of the price comparison is given in Volume 4 of the transactions and report of the sub-committee for agriculture (1) for each farm group separately. The price index is shown for each receipt group as well as for each expenditure group. On the receipt side the single price index-numbers are combined into a weighted index, while on the expenditure side a combination of the price index-numbers only occurred for the farm requisites of industrial origin, and for the remaining expenditure only the proportion and the price index-number are shown. It is not clear why not

(1) Verhandlungen und Berichte des Unterausschusses für Landwirtschaft. Vol. IV. Berlin : Mittler u. Sohn. 1929.

index-number is calculated for the total expenditure. There are given in addition the price index numbers for the total wage, the interest on mortgage credit, interest on personal credit, and for commodities required for the personal use of the farmer. The reproduction of the figures for the first of the farm groups appearing in the foregoing tables, (*i. e.*, for, Eastern Germany: size group 20-50 hectares, sugarbeet farming) may illustrate the tendency of the results:

		Agricultural products							Farming requisites etc.				
Products	Proportion of Receipts	Price Index					Product	Proportion of Expenditure	Price index				
		1924/ 25	1925/ 26	1927/ 27	1927/ 28	1924/ 25			1925/ 26	1926/ 27	1927/ 28		
	%							%					
Cereals	26.4	126.1	107.9	136.9	144.4	Fertiliser	17.9	105.6	109.4	103.4	96.6		
Potatoes	1.2	109.1	80.3	160.1	140.2	Copper sulphate	0.5	95.6	93.6	98.1	104.6		
Sugarbeets	26.1	125.0	94.0	137.0	137.0	Fuel	5.5	124.6	121.2	120.9	120.9		
Cattle	15.6	99.2	106.8	112.3	111.4	Upkeep of buildings	3.5	157.6	163.5	166.1	173.9		
Pigs	6.7	123.7	147.7	129.2	111.3	Upkeep of machines	11.2	137.7	142.4	138.4	144.0		
Sheep						New building new fittings	6.4	134.0	138.7	138.1	142.0		
Milk and dairy products	24.0	120.0	130.0	126.0	131.0	Other manufactured material	1.7	152.7	156.9	143.7	154.5		
All products	100.0	121.9	111.7	130.3	131.8	All Farm requisites of industrial origin	46.7	125.1	128.3	124.7	125.0		
						Wages in cash	25.3	118.5	129.5	138.6	151.6		
						Housekeeping	5.1	140.3	142.2	142.5	145.4		
						Stock feeds	13.3	145.7	129.9	133.3	152.8		
						Insurances	3.0	137.4	141.0	144.4	148.2		
						General farming expenses	1.3	177.1	188.1	184.1	185.5		
						Charges resulting from social legislation	2.0	220.0	280.0	360.0	390.0		
						Taxation (subject to rebate)	3.3	340.0	340.0	340.0	340.0		
							100.0						
						Total wages bill		126.2	131.8	138.8	148.0		
						Interest on mortgage credit		325.0	300.0	262.0	283.0		
						Interest on personal credit		340.0	264.0	186.0	212.0		
						Personal requirements of the farmer		171.4	170.5	158.0	165.0		

The consideration of the results for the separate farm groups shows primarily that the results are surprisingly little or scarcely at all affected by the farming region, the size of the farm or the farming system. In the various farm groups there are evident very striking differences in the composition of the two elements (receipts and expenditure), but the price development has been of such a kind that the weighted figures are at the same level. The wages bill is from the nature of the case smaller on the peasant farms than on the larger farms, but the item of house-keeping is on the other hand higher in the former case. Stock feeds represent a higher sum in proportion on the small farms. In regard to the remaining items the expenditure shows scarcely any difference.

A comparison of the index of agricultural products with that of farm requisites of industrial origin reveals this noteworthy fact that it is not the price of these latter that bring about the great discrepancy between the receipts and expenditure of the farmer. The low level of the index for farm requisites of industrial origin is influenced by the relatively low price of fertiliser: from the series of figures it may be reckoned that the expenditure on fertiliser constituted in Eastern Germany on an average 37 per cent., in Central Germany on an average 40 per cent. of the expenditure for farm requisites of industrial origin. From the comparison it also appears

Farming region farming system and size class			Price index of agricultural products				Price index of farm requisites, etc., of industrial origin			
			1924/25	1925/26	1926/27	1927/28	1924/25	1925/26	1926/27	1927/28
<i>I. Eastern Germany.</i>										
Sugarbeet farming . . .	20-50 ha	"	121.9	111.7	130.3	131.8	125.1	128.3	124.7	125.0
	over 100	"	122.7	106.6	134.3	135.8	125.1	128.1	124.1	124.4
Potato farming	20-50	"	121.9	114.0	135.1	132.4	123.7	126.9	123.2	123.1
	over 100	"	121.4	107.2	138.9	136.1	122.4	125.2	121.2	120.7
Cereal farming	30-50	"	120.7	116.4	130.0	130.3	125.2	128.3	124.0	125.3
	over 100	"	122.1	110.5	134.0	135.5	125.3	128.5	124.2	124.3
Forage crop farming . .	20-50	"	117.2	118.3	126.1	124.4	126.9	130.2	126.8	127.9
	over 100	"	119.7	117.1	129.0	128.6	127.7	130.6	127.1	128.4
Distillery undertakings .	20-50	"	114.3	107.9	133.0	134.6	125.9	128.7	125.0	125.6
	over 100	"								
<i>II. Central Germany</i>										
Sugarbeet farming . . .	20-50	"	122.4	114.4	132.4	133.3	123.3	126.9	122.8	122.6
	over 100	"	122.6	109.5	134.4	135.4	127.6	131.0	126.9	128.2
Potato farming	20-50	"	122.1	118.3	132.8	132.2	125.8	129.1	125.3	126.2
	over 100	"	115.4	106.1	139.0	133.9	123.8	127.1	122.6	122.8
Cereal farming	20-50	"	121.6	122.4	128.6	128.1	123.3	126.7	122.8	122.4
	over 100	"	121.9	115.6	132.4	133.8	126.9	130.2	126.3	127.5
Forage farming	10-50	"	118.0	121.3	125.5	124.9	124.7	128.2	124.4	124.6
	over 100	"	121.6	120.2	128.9	129.9	127.4	130.7	127.0	128.3
Distillery undertakings.	20-50	"	116.4	112.4	131.9	133.7	127.8	130.9	127.0	128.5
	over 100	"								

that in 1924-25 the price level of farm requisites of industrial origin was only a little, but in 1925-26 was considerably, above the level of the prices of products. In both the following years the prices of products were higher, but in 1928-29 the opening of the price scissors was once more noticeable, the index for farm requisites of industrial origin rising while that of prices of products fell. From the figures quoted for the one group of farms it is possible to determine to which items of expenditure the relatively higher position of the total expenditure is to be attributed, and similar relations will be found in the case of the other farm groups. The fact that the deviations in the results are so slight makes it possible to combine the price index-numbers of the products for all the farm groups. If an average index of expenditure is now calculated (1) for all groups, we obtain the following weighted index-numbers:

	Pre-war period	1924-25	1925-26	1926-27	1927-28
Products.	100	121	114	132	132
Farm expenditure	100	136	143	146	152

These figures show plainly the marked price differences between costs of products and expenditure costs. There is in addition the decided rise in outgoings for the charges the farmer has to meet and his own requirements which must be met out of the net return, the rise in rates of interest with a very high total indebtedness of agriculture, and the rise in the prices of the commodities required for the personal use of the farmer and his family.

H. B.

(1) See FENSCH Dr. H. L., Preisbildung und Landwirtschaft. Mitteilungen der Deutschen Landwirtschafts-Gesellschaft, 1929. Stück 42.

ECONOMIC AND SOCIAL CONDITIONS OF THE AGRICULTURAL CLASSES

Official Enquiry on Agricultural Wages in Brazil.

The *Serviço de Inspeção e Fomento Agrícolas*, in the course of its study of the principal aspects and problems of Brazilian rural economy, has lately completed two interesting enquiries which have been sent to the International Institute of Agriculture, by the Minister of Agriculture, Industry and Commerce, His Excellency Dr. Geminiano Lyra Castro. One of these relates to agricultural wages in the five years 1924-28, the other to the prices of land, rents and emphyteusis charges in 1928. With a view to making Brazilian conditions better known, it has been considered advisable to publish the fundamental results of these enquiries, beginning with the one relating to wages, which is of special importance for a State which offers so much opportunity for land settlement and therefore requires a large quantity of effective labour for bringing its lands under cultivation and for the proper utilisation of its natural resources.

The prevailing form of land tenure in Brazil is that of large estates. In the States of Amazonas, Para, Goyaz, Matto Grosso and the Acre Territory the farms and stockbreeding stations have on an average an area of 1000 hectares, and in some districts even of several thousand hectares. The average areas are also very considerable in the States of Minas Geraes, Piauh, Maranhão, S. Paulo, Parana, Bahia, Pernambuco, Ceara, Rio Grande do Sul, Rio Grande do Norte and Parahyba. On the other hand in the States of Alagoas, Rio de Janeiro and in the Federal District there are no farms extending to 1000 hectares.

From the agricultural census of 1 September 1920, the last published, it appeared that in the different Brazilian States there were 648,153 farms of a total area of 175,104,675 hectares, representing in all a value of 21,650,771 *contos* of *reis* (1) distributed as follows (in *contos* of *reis*) lands, buildings, various equipment and machines, 10,568,008; live stock, 6,183,745; agricultural products, 4,119,900; forest products, 164,211; animal products, 614,907.

On the farms included in the above returns, 50 per cent. are in the States of Rio Grande do Sul, Minas Geraes and S. Paulo. The largest amount of capital is invested in the farms of S. Paulo: 2,887,243: 843\$000.

On the basis of the 1920 figures, the number of estates farmed directly by the owners was about nine-tenths of those for which returns were made, only one-tenth being farmed by managers, tenants, share tenants, etc.

Labour finds employment in Brazil either on the land settlement nuclei on which immigrants, with assistance in the form of subsidies from the State, can settle as independent farmers (2) or even more on the characteristic "fazendas", or large agricultural undertakings of industrial type for the production of coffee. The statements that follow mainly refer to these latter which represent the more numerous and better equipped of the Brazilian farm undertakings.

It appears from the figures to be supplied that the present day tendency is towards a gradual improvement in the remuneration of land workers, in view of

(1) A *conto* of *reis* 1 million *reis* or 1000 *milreis*; 1 *milreis* = 5 3/4 *d.* (20 November 1929).

(2) See "The Economic Organisation of Agriculture in Brazil" in the *International Review of Agricultural Economics* No. 10 (October) 1929 Rome, International Institute of Agriculture.

the great demand for labour. Among factors tending of recent years markedly to improve their position may be mentioned the increase in the price of coffee which took place from 1911 onwards following on a ten year period of very low prices, together with the extension of this crop which has increasingly absorbed labour and the gradual development of subsidiary crops, such as the cultivation of maize, beans, rice, cotton, and also of stockbreeding, this last development having undoubtedly initiated a new era in the agricultural history of Brazil.

The Department of Agricultural Inspection and Development among its other activities devotes special attention to registering the fluctuations in agricultural wages throughout the whole country. As it receives information each month from all the agricultural districts it is in a position to estimate, with sufficient exactness, the effect of the different factors on the fluctuations noted, and thus to follow the course of the labour market, throughout Brazil, noting the various situations and requirements.

In the first place it should be noted that in Brazil wages are usually reckoned without board, those including board being limited to a small number of rural workers without family.

In the five years 1924-28 the daily wages of agricultural workers varied within wide limits, the annual average for the different States varying between 2\$550 and 6\$459 per day, as appears from the following data :

States	Annual average of daily wages	States	Annual average of daily wages
Ceara	2 \$550	Rio de Janeiro	4 \$380
Piauhy	2 \$800	Para	4 \$490
Alagoas	2 \$940	Santa Catharina	4 \$650
Rio Grande do Norte	3 \$000	Amazonas	5 \$450
Sergipe	3 \$050	Parana	5 \$450
Pernambuco	3 \$350	Minas Geraes	5 \$950
Parahyba	3 \$400	Rio Grande do Sul	6 \$250
Bahia	3 \$550	Acre	6 \$310
Matto Grosso	3 \$800	Espirito Santo	6 \$400
Maranhão	4 \$000	S. Paulo	6 \$450
Goyaz	4 \$300		

The highest wages are those earned in connection with the cultivation of coffee, and also at present in the new citrus growing zones, with that of oranges, more especially at the harvest period, when the intensive nature of the work make the shortage of labour even more serious.

As has already been stated the estates are for the most part farmed by the owners ; many are however placed in the hands of managers ; generally speaking direction by the owners themselves does not exclude the assistance of assistant managers (*auxiliares de administração*). On the large estates there is also scope for an official with wide administrative powers, and in the regions of greater production and activity one or more subordinate officials are usually attached with functions assigned according to the needs of the estate, the responsibilities attached to its different branches and according to the authority exercised over the workers. More usually there is one single administrative official, assisted, where necessary, by one or more workers who, in return for a small addition to the daily wage, undertake to direct the workers of a certain squad (*turna*).

The number of assistant managers naturally varies according to the extent and the business done by the farms. They receive for the most part a monthly salary and in addition to a house and other allowances many owners allow them to cultivate a parcel of land for the requirements of their family. Sometimes but not often they have a share interest in the production ; but in some States on the great stock breeding farms, there is a system of share tenancy (*parceria*) by which these officers (*vaqueiros*) receive a share of the herd increase.

According to the data collected by the farm inspectors the annual average of the monthly emoluments paid to the managers and assistant managers (*feitores, capatazes, apontadores*) varied, for the two classes, in the five years 1924-28, respectively between the following limits :

States	Annual average of monthly pay	States	Annual average of monthly pay
Managers		Managers	
Acre	184 \$000	Amazonas	230 \$000
Para	195 \$000	Parana	256 \$000
Bahia	195 \$000	Parahyba	257 \$000
Ceara	197 \$000	Minas Geraes	329 \$000
Rio Grande do Norte	210 \$000	Rio de Janeiro . . .	340 \$000
Santa Catharina . .	210 \$000	Espirito Santo . . .	348 \$000
Alagoas	213 \$000	Rio Grande do Sul .	365 \$000
Piauh.	215 \$000	Matto Grosso	381 \$000
Sergipe.	219 \$000	Pernambuco	415 \$000
Goyaz	226 \$000	S. Paulo	805 \$000
Maranhão	230 \$000		
Assistant managers		Assistant managers	
Sergipe.	115 \$000	Para	163 \$000
Alagôas	124 \$000	Piauh.	167 \$000
Ceara	131 \$000	Goyaz	173 \$000
Rio Grande do Norte	135 \$000	Maranhão.	174 \$000
Acre	142 \$000	Pernambuco	187 \$000
Amazonas.	142 \$000	Espirito Santo . . .	194 \$000
Parahyba.	152 \$000	Minas Geraes. . . .	196 \$000
Parana.	153 \$000	Rio de Janeiro . . .	206 \$000
Matto Grosso . . .	155 \$000	Rio Grande do Sul .	245 \$000
Santa Catharina . .	161 \$000	S. Paulo	245 \$000

In 1928 a tendency was noticeable for managers' wages to rise in Ceara, Alagoas, Bahia, Espirito Santo, Rio Grande do Sul, and Minas Geraes. For the State of S. Paulo it is noted that the monthly salary of 1 : 500 \$000 which makes the annual average so high is paid only on the coffee growing estates.

The salaries of the assistant managers show, in general, with rare exceptions, the same fluctuations as are registered for the managers.

Generally speaking, the rates of remuneration for these two classes vary perceptibly under the influence of different factors, especially the kind and the degree of prosperity of the undertaking and the relative intensity of the work ; higher rates are attached to the cultivation of coffee and of sugar cane ; on the other hand in the State of Rio Grande do Sul these attach to the rice cultivation which is

practised scientifically on a large scale, chiefly in the centres in the vicinity of Porto Alegre and Pelotas.

Only moderately high rates prevail in connection with cotton growing in all the regions of production of the North and North-East, this is due to the fact that it is carried on entirely by small tenant cultivators (*rêndeiros*) or holders in emphyteus (*foreiros*) who have no adequate technical equipment.

The enquiry under consideration indicates in addition the presence on certain coffee growing *fazendas* of the State of S. Paulo, and on some sugar estates of Matto Grosso, of accountants with a monthly salary of 300\$000, which in other States varies for this group of officers from 100\$000 to 250\$000.

The drivers of agricultural machines, who are nearly always chosen from among the more capable workers on the estates, receive monthly salaries varying from 100\$000 to 250\$000, the daily wage varying from 3\$000 to 10\$000, according to the labour market conditions in each State.

Workers engaged in flock tending or generally with the live stock (*peões, campeiros, retireiros*) are paid on a somewhat lower scale than other agricultural workers. The monthly pay varies from 20\$000 to 45\$000 for boys or youths and from 50\$000 to 120\$000 for men. The breakers-in (*amansadores, domadores, acertadores*) of saddle beasts receive, for instance, in the State of Minas, from 20\$000 to 30\$000 and sometimes up to 40\$000 for breaking-in a horse and up to 50\$000 for breaking-in a mule.

Passing to the agricultural industries, the wages of the more or less specialised workers depend essentially on the nature of the services given. It may be noted that in the State of Parahyba do Norte, in sugar manufacture the *mestre* is better paid than the distiller and that at Goyaz the highest salaries are paid by the salted meat industry (*xarque*).

In the same way in the cleaning and general manipulation (*beneficiamento*) of cotton, rice, coffee, etc., the machine worker receives a higher wage than the ordinary worker.

Another group considered is that of the transport workers who receive wages almost equal to those of ordinary labourers or a little higher.

Transport within the estates (*fazendas*) or from these to the railway stations, the embarkation ports, etc., is accomplished by various methods, according to the roads, and the local customs and requirements. There is a general tendency to improvement in this respect and to an increasing use of motor transport, which is of special advantage on the large estates owing to the short time required for transport of heavy loads. On the one hand there are the drovers of pack-oxen (*tropeiros, comboieiros*) with daily wages varying in 1928 from 2\$500 to 3\$000 in the States of Ceara and of Rio Grande do Norte, from 2\$500 to 6\$000 in Pernambuco, from 5\$000 to 6\$000 in Rio de Janeiro and Goyaz and from 4\$000 to 8\$000 in Rio Grande do Sul. In some localities these workers are instead paid by monthly payments up to 120\$000. On the other hand there is the class of carters (*carreiros, carretteiros*) and of drivers of vehicles (*carroceiros*) who in the five years referred to have been paid wages varying according to the locality and the kind — from 2\$000 to 5\$000 in Ceara, Rio Grande do Norte, Parahyba, Alagoas and Sergipe, from 2\$000 to 6\$000 in the States of Piahy and Pernambuco; from 2\$000 to 8\$000 in the State of Goyaz; from 3\$000 to 7\$000 in Maranhão; from 3\$000 to 8\$000 in Rio de Janeiro and in Santa Catharina; from 3\$000 to 10\$000 in S. Paulo; from 4\$000 to 8\$000 in the States of Para, Espirito Santo and Parana; from 4\$000 to 9\$000 in Minas Geraes and from 4\$000 to 12\$000 in the Amazonas.

But as has been mentioned with the improvement of the roads the use of motor-

transport is being extended ; the daily wage of a driver varies in this case from 5\$000 and 15\$000 ; the highest level being reached in the State of S. Paulo.

In centres in which the transport of agricultural products is done by means of small craft on the lakes and rivers of the interior the returns of daily wages for boatmen are from 4\$000 to 10\$000 in Acre and in the States of Amazonas and Para ; from 3\$000 to 6\$000 in the States of Alagoas, Sergipe and Bahia, from 5\$000 to 10\$000 in the State of Espirito Santo ; in the other regions these wages approximate more or less to those of non-specialised workers.

A worker engaged in shoeing draught animals or saddle horses earns on an average from 5\$000 to 10\$000 per day.

A class of workers who are essential to the efficient working of the *fazendas* — which is becoming a more and more complex business with the increasing industrialisation of the crops — is that of the rural artisans. There is a regrettable shortage of this type of worker in the country districts, which is aggravated by the rise in the wages paid to the same group in the large urban centres. A few of these are permanently established on the *fazendas*, and wherever this is the case the wages are always higher than those of other types of worker. This is especially in the case for those estates of greater size and importance, where there is always work for carpenters, smiths, mechanics, bricklayers, etc. The maximum and minimum rates for these wages are shown for 1928 as follows :

Daily wages of artisans working in the country districts.

	Carpenters		Bricklayers		Smiths		Mechanics	
	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum	Maximum	Minimum
Amazonas	6\$000	16\$000	5\$000	16\$000	10\$000	12\$000	10\$000	12\$000
Para	8\$000	10\$000	7\$000	10\$000	8\$000	10\$000	10\$000	12\$000
Maranhão	6\$000	12\$000	6\$000	12\$000	5\$000	15\$000	8\$000	15\$000
Piahy	5\$000	8\$000	3\$000	8\$000	3\$000	10\$000	6\$000	10\$000
Ceara	6\$000	10\$000	4\$000	9\$000	—	—	—	—
Rio Grande do Norte	5\$000	10\$000	5\$000	10\$000	—	—	—	—
Parahyba	5\$000	10\$000	6\$000	10\$000	5\$000	10\$000	8\$000	20\$000
Pernambuco	6\$000	12\$000	7\$000	12\$000	5\$000	14\$000	10\$000	22\$000
Alagoas	6\$000	10\$000	6\$000	8\$000	6\$000	8\$000	5\$000	15\$000
Sergipe	6\$000	10\$000	6\$000	10\$000	6\$000	10\$000	—	—
Bahia	5\$000	12\$000	5\$000	12\$000	—	—	—	—
Espirito Santo	5\$000	15\$000	10\$000	16\$000	10\$000	15\$000	8\$000	16\$000
Rio de Janeiro	8\$000	18\$000	8\$000	16\$000	8\$000	15\$000	12\$000	30\$000
S. Paulo	6\$000	20\$000	8\$000	20\$000	8\$000	20\$000	12\$000	30\$000
Parana	10\$000	18\$000	8\$000	18\$000	10\$000	15\$000	15\$000	20\$000
Santa Catharina	8\$000	122\$000	8\$000	12\$000	7\$000	10\$000	—	—
Rio Grande do Sul	6\$000	18\$000	6\$000	25\$000	7\$000	20\$000	5\$000	25\$000
Minas Geraes	9\$000	15\$000	4\$000	15\$000	10\$000	15\$000	12\$000	20\$000
Goyaz	10\$000	15\$000	10\$000	15\$000	10\$000	20\$000	10\$000	20\$000
Matto Grosso	10\$000	20\$000	10\$000	15\$000	—	10\$000	10\$000	20\$000
Acre	15\$000	20\$000	12\$000	15\$000	—	—	—	—

It may be noted that the smiths prefer to work on their own account in their shops and that locksmiths (*serralheiros*) and others executing the finer types of work receive wages which approximate to those of the mechanics. Assistants earn about half the wage of the respective principals.

Other artisans receive salaries varying in accordance with the kind of work ; timber workers earn from 5\$000 to 10\$000 per day and the boatmen of the rural areas served by river navigation earn from 3\$000 to 10\$000 per day.

Workers employed at kilns (*oleiros*) receive pay varying from 3\$000 to 8\$000 in the States of the North East and from 5\$000 to 7\$000, in some cases as much as 18\$000 and 20\$000, in the Southern States.

The so-called *em terra* workers usually earn a little less than other workers,

except in the case of specialised workers, *i. e.*, those employed in the construction of terraces (*cavoqueiros*) and trenches (*valleiros*) who earn higher pay.

It results that from the concurrence of a number of factors, agricultural wages in Brazil in the rural areas, and in correspondence with the peculiar conditions of each area, have of late years been subject to noticeable fluctuations, reaching the highest levels in the centres of production of coffee, oranges, cotton, sugar and cacao. This is due not only to the prices at which these products come on the markets, but also to the scarcity of labour especially at the time of harvest. It is to be observed that this scarcity of labour causes a rise in wages also in centres where conditions are critical and there is disorganisation of labour.

The report of the enquiry shows that in certain States there is a growing tendency for a transfer of rural population to the cities and populous centres, and the necessity is dwelt on of checking this phenomenon and of finding means to render life on the *fazendas* more comfortable and attractive. Here we have the more strictly social aspect of the life in the country districts, in which the Brazilian Government is equally interested.

G. C.

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Aspecto da economia rural brasileira. Salarios ruraes. Inquerito annual feito pelo Serviço de Inspeção e Fomento Agrícolas. Ministerio da Agricultura, Industria e Commercio do Brasil, 1929.

Annuario do Ministerio da Agricultura, Industria e Commercio, 1929. Publicado pelo Serviço de informações. Rio de Janeiro. 1929.

CO-OPERATION AND ASSOCIATION

The New Organisation for the Co-operative Sale of Olive Oil in Spain.

One of the most keenly discussed problems in recent years in Spain, the foremost among the olive growing countries of the world, has been that of co-operative organisation of the producers of olive oil for the sale of their product. Such an organisation has been at last planned upon sound technical and economic bases, and, more especially as the outcome of the activity of the National Association of the Olive Growers of Spain, is already well on the way to realisation. After careful consideration of the production of and trade in oil in Spain, the need for such an organisation was unanimously recognised by the meeting of olive growers held in Madrid on 28 and 29 of last October.

This fundamental branch of Spanish rural economy is undoubtedly passing through a critical period due essentially to the fact that the attention of the growers has been almost exclusively directed on production, while the marketing problem has been neglected and intermediaries have been allowed to dominate this field of action. These persons have been able to accumulate large fortunes and to provide themselves with equipment of every kind, warehouses, means of transport, etc., and have thereby secured the posts of vantage on the markets. The net has thus been, so to speak, closely drawn round the growers and they have been rendered powerless to act while there has been an enormous sacrifice of their interests. At present the general opinion is that, if a remedy is not quickly found for this absurd state of affairs, the position of the olive growers will become more than ever difficult, taking into account that the area of olive growing has increased from an average of 1,431,027 hectares in the period 1909-10 to 1,787,138 in 1928-29 and that

the increase in production has been from an average of 2,196,974 quintals in the same period to about 6,656,388 quintals in 1927-28 (1) ; with a tendency to increase, thanks to the constant improvement in methods of cultivation and to the liberal use of fertilisers. Complaints are made that owing to the increase in supplies without adequate diversion to the export market the price paid to the grower is steadily falling so that there is even a danger that the reduction of the returns of his labour may eventually oblige him to give up cultivation. It has thus appeared of the utmost importance for the growers to free themselves from the yoke of the useless and expensive system of middlemen, and to combine for the purpose in a great co-operative organisation such as that which has recently been formed. The scheme consists in the gradual establishment of "co-operative nuclei" in the main olive growing zones of the country, the first of which has already taken shape in the centre of largest production, and is known as the *Unión de Olivicultores de Jaén*, legally constituted on 25 October last. The second of these will shortly be established in Cordova, another province of great importance for the production of olive oil, and in this way a national co-operative system will be quickly built up.

The plan adopted which forms an organic whole represents a fortunate adaptation of the system of the Canadian pools to the special conditions of Spain and is the result of exhaustive enquiries made by a Commission set up for the purpose. The advice has also been obtained of well known experts, growers and traders and a campaign was also undertaken for the purpose of ascertaining the views of the great mass of persons concerned.

The fundamental lines of the new organisation will now be indicated.

The selling organisations will assume the form of agricultural syndicates or unions, it being understood that the Spanish type of syndicate is very comprehensive and of a kind to lend itself readily to the exercise of co-operative activities (2). Such unions may also be directed at other subsidiary or complementary objects authorised by the law although the establishment of separate organisations is preferable in these cases. The advisability of smaller local organisations is also recognised. At the opposite end of the scale there will shortly be a Central Committee for sales confined to Spanish territory.

The so-called "co-operative nuclei" will as a rule cover one or more provinces and will be governed by common regulations in regard to detail, their organisation having to correspond to the conditions of the various zones. Each group or nucleus will assist growers in the respective areas, will have its own property and will be self-governing as regards its internal affairs. They will however — and this is an essential point — adopt identical procedure in respect of sales which will be effected by means of a central joint agency.

As a certain time will be required for the complete realisation of the scheme, arrangements have been made for the admission into each nucleus of members belonging to neighbouring provinces, while awaiting the formation of the respective union. Thus membership of the Jaén Olive Growers Union is open to growers of the provinces of Cordova and Granada and growers of Ciudad Real may also be members; while growers of the provinces of Seville, Malaga, etc., may be admitted into the Cor-

(1) See: International Yearbook of Agricultural Statistics, 1928-29. International Institute of Agriculture, Rome, 1929.

(2) In Spain the co-operative societies have no legal basis proper; nearly all the societies however are constituted on the basis of the law on associations of 30 June 1887. The special law on the agricultural syndicates is dated 28 January 1926. Important provisions in respect of these were enacted by the Royal Decree of 31 November 1929. (*Gaceta de Madrid*, No. 351, 27 November 1929).

dova Union. Steps have been taken to render possible the rapid formation of these nuclei in the central region, in Aragon, or wherever there is evidence of urgent demand for organisation. Precedence will be given to regions where the difficulties referred to are widespread and acute.

With a view to ensuring the strictly co-operative character of the organisation it is provided that no interest shall be paid on the contributions made by members, as will be seen, in proportion to their respective production, interest being paid instead to a limited extent on voluntary contributions only. Each member will have a single vote, the large growers only having the exercise of two or at most three votes in proportion to the total operations effected through the medium of the society within the last two years. In the case of dissolution of the union, only so far as has been previously agreed will the members be entitled to receive any proceeds which as a rule will be reserved for firms and similar undertakings, in accordance with one of the objects expressly indicated, namely that of "creating or encouraging co-operative or mutual aid institutions in the olive growing regions of Spain". The character of the new organisations is even more clearly shown by the terms of their constitution which forbid any activity undertaken for profit simply and state that their object must be not "a gain in itself, but the protection of the legitimate interests of members, securing to them the just reward of their work, always observing the principles of mutual aid and agricultural co-operation".

Passing on to the method of working, one of the most delicate and essential questions considered was that of the obligation of the members to sell their product for a given period only through the agency of the society. The solution adopted is less strict in application than that accepted in other countries by this type of society, in so far as that while there the members are as a rule pledged to deliver the whole product except that part kept back for family consumption, in the case of the Spanish societies the members are pledged not to dispose of the commodity except by the agency or by the consent of the society. Every member may deliver the product either all at once or at different times, as it is more convenient to himself to place it on the market. With the consent of the society sales may also be made to third parties. On the other hand, the sale without the knowledge of the society of even the smallest quantity of the product is absolutely prohibited. The obligation lasts for at least five years; beginning from the fifth year members may withdraw from the pool on giving two months notice, taking effect at the end of the year.

With the delivery of the product to the society the problem of its valuation and its payment arises. With this object it is considered best to make a single pool with all qualities received and to adopt one year as the pooling period. This method makes it necessary to determine the values of the oils with reference to a small number of type qualities. The co-operative society will publish as often as may be necessary its quotations for such type qualities and the rules for grading, so that those concerned may know at any moment the provisional price of their oil and will thus be in a position to decide when it will suit them to sell.

The system of scaling of payments over a certain time which is usually adopted by co-operative societies of this kind is here planned on quite simple lines. There will be an initial payment which will be the largest, a single intermediate payment and a final settlement at the close of the season. In practice the system will function as follows, according to the rules of the Jaén Olive Growers' Union: on taking over an oil consignment, the society shall pay to the member: 1. within four days, a sum varying from 60 to 75 per cent. of the provisional value at the current price quotation; 2. on two dates in the year to be fixed by the Management Council in

such a way as to coincide with the period during which the money is most needed on the farms, another sum which with the previous payment will make up 90 per cent. of the provisional value (intermediate payment).

The distribution of any balance there may be will not be effected at an equal rate per *arroba* (kg. 11.5) but in proportion to the provisional valuation. In this way premiums will result for those who take the trouble to produce superior qualities which can be more advantageously placed on the market.

Before proceeding to the final distribution, however, account has to be taken of the expenses of the period of operation and of some part of other expenditure distributed over several periods, and in the following manner :

1. The aggregate provisional valuation of all the separate consignments made to the society is divided by the total quantity of the product ; the average provisional valuation per unit of product is thus obtained.

2. From the total sum resulting from the sales the expenses as already indicated are deducted ; the difference represents the net return on the sales.

3. The net return of the sales is divided by the total quantity of the product ; in this way the actual net price per unit of product is obtained.

4. The actual net price per unit of product divided by the average provisional valuation per unit of product gives a quotient known as the " characteristic coefficient of the period ".

5. The final price to be paid to each member is found by multiplying the provisional valuation of the consignment of oil made by him by the characteristic coefficient of the period.

In the final distribution, however, the member will not receive the total amount of the difference between the final price as calculated above and the advances he has already received, since two deductions have to be made on this amount : (a) a deduction for amortisation of the material and plant, fixed at the rate of one hundredth of a peseta per kilogramme of oil, which may be raised, by vote of the general meeting, to one and a half hundredth in the case of members who have belonged to the co-operative society for less than five years ; (b) a proportional deduction, for the working fund, of one per cent. on the price of oil resulting from the annual settlement, a deduction the amount of which will however remain the property of the member with the obligation of leaving it for four years at the disposal of the co-operative society. In other words after the settlement at the end of the fifth year he can withdraw the deduction of the first year, and after that of the sixth year he can withdraw the deduction of the second year and so on.

The system of payments distributed as explained over the year will clearly involve a less immediate need of actual cash and hence a greater possibility of obtaining ordinary funds for working ; the proportional deduction referred to will on the other hand ensure a considerable working capital, while the fixed deduction will in time supply large sums with which to meet expenses for working material and for subsidiary services. However these sources of income are not sufficient, as provision has to be made for premises for storage, for containers, filters, lorries, etc. and for the capital for paying the advance of 60 to 76 per cent. on the value of the oil consignments made by the members, at least up to the time when funds from sales are available. Hence, since it is incumbent on the members to have the necessary resources ready as soon as possible, they are expected to pay a direct contribution to the working expenses, such contribution to consist of :

1. A quota equal to 8 per cent. of the value of the annual average production of each member in the last two years. The member shall pay the fourth part of this on entering the union and the remainder at different periods as decided by the

Management Council and on the following conditions: (a) 40 days' notice at least is to be given; (b) no payment may exceed one fourth of the entire sum; (c) in any one year not more than half of the whole sum shall be paid;

2. The subscription of an additional security for the proportional part belonging to each member in connection with the credit operations which the society must undertake, the liability being however limited to a sum equal to once the quota as above, which may be increased by one-fourth so as to correspond if necessary to the proportional part of the losses incurred by fall of prices or by any failure to pay on the part of purchasers of the product. In this way a guarantee is given of the utmost security, which the most exacting bank will accept, without need to have recourse to unlimited joint and several liability which is inapplicable in this case and which Spanish growers would not admit.

In addition an entrance fee is levied at a rate to be fixed by the Management Council; this will be used for the expenses of constitution of the society.

Provision is however also made that during the first months of 1930 the organisation under review shall resort largely to credit to meet the initial payment for the oil consignments received; that is to say, provision is made for the opening of a current account guaranteed by a part of the statutory quotas paid by the members, the additional guarantee subscribed by them, the bills of exchange released in connection with the sales made and the warehouse certificates of the oil not yet sold.

The sums gradually amassed from the sales will ensure the normal working of the new co-operative unions. In each one of these, however, there has been formed, as a special section, a rural credit bank each with a staff and a separate accounting office, under the superintendence of a specially appointed committee, when it is not thought better to apply to an already existing organisation for this service. This credit bank will in particular be of assistance to the numerous small growers.

As soon as the first "co-operative nuclei" have made their appearance, the Central Commission for Sales already mentioned will be formally constituted, which is to be the exclusive organisation for sales handling. In the meantime every provincial union will press on the formation of local or district representatives bodies, while already existing associations and syndicates may act as such.

It is considered essential for the fuller development of the scheme to have the support of subsidiary organisations of a commercial character, able to supplement the action exercised, *e. g.* by purchasing oil from third parties and by dealing on other markets. There is a proposal for forming as rapidly as possible a limited liability company of which the shares should be held exclusively by co-operative societies forming part of the system or by similar societies. Such a company might render considerable services, as it might for example undertake to promote the formation of a series of companies among Spanish speaking countries, Spanish-Argentine, Spanish-Cuban, etc., in which one half of the capital should be owned by Spanish co-operative societies for production of oil or other products. It is thought that a Spanish-Brazilian company might for example undertake to market with advantage in Brazil the oils or other products of Spain, while it might also encourage the marketing in Spain of large quantities of Brazilian coffee. With a view to effecting the largest possible export of the surplus product, the advisability is urged of encouraging direct relations between the co-operative societies of Spanish growers and the large consumers' organisations of Europe and America.

G.C.

Do. : Hacia la organización cooperativa para la venta de los aceites españoles. Charlas con los olivicultores de Jaén. Madrid, 1929.

Organización cooperativa para la venta de los aceites de oliva españoles. *Boletín de Agricultura técnica y económica*, No. 259, October 1929. Ministerio de Economía Nacional. Servicio de publicaciones agrícolas. Madrid, 1929.

Estatutos de la Unión de Olivicultores de Jaén. (Sindicato de ventas, filial de la Asociación Nacional de Olivareros de España). Jaén, 1929.

The Central Society of Agriculture in Latvia.

The operations of the Central Society of Agriculture in Latvia (Riga) extend to the whole country, the object of the Society being the general promotion of agricultural progress "by means of the co-ordinated activity of the agricultural associations" of which there is a considerable number with varied objects, technical and economic. On 1 May 1928 the number of constituent societies was 451, of which 204 were agricultural properly speaking, including 112 for live stock testing, 66 for the milk industry, 19 for land improvement, 9 for the development of household management instruction., 8 for the joint utilisation of farm machinery, 5 breeders' societies, 5 societies for apiculture, 4 for horticulture and 19 miscellaneous.

More especially the Society proposes to realise its objects :

1. by a popularisation of the agricultural sciences through publication of studies on agriculture in general and on special branches ;
2. by the foundation of agricultural schools or encouragement of their foundation, by the establishment of experimental stations, demonstration farms and rural museums, etc. ;
3. by encouraging the sale of agricultural products and the purchase of seeds and fertilisers and by proceeding — through the medium of the co-operative societies — to the purchase of machines and generally of all agricultural requisites ;
4. by the encouragement of the formation of societies for livestock testing, co-operative dairies and kindred organisations ;
5. by the organisation of exhibitions and prize competitions, visits to the farms of members, the preparation of projects for crop increase, the collection of data on co-operation, etc.

The agricultural societies in general, the rural co-operative societies and unions all belong to the Central Society. The separate organisations may be represented on it by a maximum of five delegates appointed by their respective general meeting and each delegate has the right to exercise one vote.

The Society is administered by a Management Committee, consisting of five members and three substitutes, elected for three years. The chairman is chosen from among these and is appointed annually by the general meeting. Funds are obtained by members' subscriptions, the income from the farms belonging to the Society and by subsidies from the central co-operative unions and from the State.

It is interesting to examine the actual work accomplished by this organisation as appears from the report of the 1928 financial year. The activities are distributed among a number of sections and special offices and may be summarised as follows :

The Publishing Section works for agricultural progress by means of the publication of manuals and books of practical interest for the rural classes.

The Section for Agricultural Education which also deals with the educative

cinematograph, has supplied to about 300 regional societies 400,000 metres of films for 400 displays.

The Institute of Rural Economy in the course of its meetings of January 1928 examined the questions relating to the preparation of the farm accountancy material, the fixing of prices of agricultural products, the organisation of the live stock market intended for consumption in the different countries of Western Europe and the question of cereal pools.

The Labour Office examined in the course of the year the labour required by the farmers.

The Office of Wholesale and Retail Prices published regularly four times a week bulletins of the enquiries on the prices of cereals, seeds, flour, forage, potatoes, dairy products, cattle and meat.

The Office of Farm Accountancy carried out a survey of 60 farms with a view to obtaining the comparative data on the conditions of agricultural production.

The Institute for the protection of plants and trees organized 17 propaganda lectures.

The Section for after school instruction held 698 lectures attended by 63,452 persons, and 207 courses which were followed by 12,261 students.

The Section of co-operation made special efforts for the formation of societies for the joint utilisation of agricultural machines and of stock breeding societies, and provides for the audit of almost all the dairy societies belonging to the Central Society.

The Agricultural Section which makes use of the services of two higher agricultural experts resident at Riga and of 20 provincial experts, who have the duty of supervising cultivation in the fields, organised 41 courses and 390 lectures for the treatment of agricultural questions; it approved in addition 193 schemes for re-organisation of farms and 525 projects for experimental fields.

Special work was done by the Section for Agricultural Experiment in regard to seed selection.

The Lands Improvement Office retains the services of 19 specialists who in the financial year under consideration has drafted schemes for the clearing and improvement of 9131.61 hectares. For draining lands with surplus water 1061.30 km. of drainage was provided, and plans for irrigation and drainage were drawn up by 42 societies for land improvement.

Mention is also made of: the Section of horticulture to which 10 instructors are attached, the Section for livestock breeding with 28 instructors, which has brought about the formation of 18 new testing societies, making the complete number of these 30; the Section for the milk industry, the household management Section, the Farm Machinery Experiment station and the so-called technical Section, which in 1928 made a special study of the effect of temperature on milk production in 8 co-operative dairies, and established 12 stations for the joint utilisation of farm machines.

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La Société Centrale d'Agriculture de Lettonie. Ses buts et son organisation.

Latvijas Lauksaimniecības Centralbiedrības. Darbības pārskaits par laiku lmo. 1. Maija 1927 grāda līdz 1. maijam 1928. gada (XXII. darbības gads). Rīga, 1928.

MARKETING OF AGRICULTURAL PRODUCE

The Meat Industry on the South American Continent.

For several years past there has been a conflict of interests between the industry of stock farming for export and the "packing" industry for export of frozen or chilled meat. This gives rise to a divergence of views and of economic outlook in regard to the future of the two industries and to their possible co-existence and harmonious relations.

It will be of advantage to state the two views side by side, beginning with that of the economists who maintain the view of the stock farmers of South America.

I. — The owners of pasture lands and stock breeders anticipate a decrease in returns and in economic independence, in view of the growing development of the companies which have built up the packing industry and dominate the export trade and the distribution of frozen and chilled meat.

South American economists give their reasons for protecting returns from the land and agricultural profits by the following main arguments :

The great companies which cause the main anxiety to farmers are at present six in number : five American and one English. They own packing plants in Argentina, Uruguay, Brazil, Venezuela, South Africa, Australia, New Zealand, Madagascar and in other places of less importance.

After the war the American companies obtained predominance, especially in Argentina.

The companies, so-called independent, formed by Dutch, German and French capital are less strong, and according to the Argentine writers are likely to be absorbed by the American companies.

There is little hope of any useful rivalry growing up among these meat trusts ; on the other hand the farmers fear their coming to an agreement, as it is known that the whole of these trusts form an economic unit handling a working capital of more of 350 million pounds sterling.

The studies made in Argentina the results of which are made available by Dr. Richelet indicate the great international importance of the South American question.

It is maintained on the other hand that the world production of meat and its distribution has not up to now sufficiently attracted the attention of members of international congresses and of the Governments, there being no adequate recognition of the conflict between the industrial and the agricultural interests, nor of the consumers' interest.

The world live stock supply, actual and possible, is in excess of any consumption requirements due to the increase in the world's population and to the policy of population increase in the nations which have to count upon their birth rate. In addition there are in South America extensive areas which could be utilised by an extension of stockbreeding. At the same time the quantities placed upon the markets by the meat packers and dealers are not in due proportion to the increase in population and to consumption requirements in meat. It is on the basis of this want of commercial equilibrium that the so-called Confederation or agreement, dating from 1911, was concluded among the American and British meat packing companies established on the banks of the Plate River. Their agreement was to limit the number of head of stock to be slaughtered in Argentina and in Uruguay and intended for the British markets.

Although the companies deny the existence of such a convention for limiting the production of the South American countries with loss to these countries and to the European consumers, the danger attending such an agreement — and it is clear that such an agreement has been in existence from 1926 — is shown by the fall in the prices of live stock in Argentina and by the accompanying rise in the market value of the companies' shares. Hence it seems clear that this limitation, the real intention of which would be to secure loading of South American meat on the companies' steamers, while the avowed object is reduction in costs, has an influence on all the other meat markets and is detrimental to the development on the South American continent of production of a food commodity which is in demand throughout the world. There is besides the economic menace or possibility involved that the agreement between these two groups of trading interests, the American and the British, will extend later, so as to obtain the advantage of joint working of business, to other South American markets and to other agricultural commodities of prime necessity, which the South American continent could supply on a larger scale to the European markets in competition with those exported by the English speaking countries.

Anxiety is felt lest at a given moment the six large packers, as these trusts are called, may give preference to the products of the English speaking countries, the reason being that of avoiding any competition between the companies, but the object being to lower the value of South American products.

It is also feared that these Companies, which carry on trade without distinction in products coming from their packing stations in different countries and continents, may limit the possible competition of products of superior quality, in the interest of other products of inferior quality, the sale of which they desire to ensure. This would involve a danger for Argentina and Uruguay, which pay special attention to the steady improvement of their livestock production.

There is thus an international side to the question of interest to the European consumers.

In so far as live stock form the raw material of an important group of industries and the statistics show that the larger part of the total export of these South American countries consists of products of the stock breeding industry, it would be a mistake to study the question on the statistical basis of the present stocks of the separate exporting countries, instead of on the basis of the world requirements of consumers which the South American continent could satisfy on a much larger scale when the relations between the stock breeding industry and the meat industry and trade have been established on equitable lines, in the common interest of all the countries which export or import meat.

With a view to the consumers' interest and the possibility of developing production of live stock on the South American continent attention should be given to the establishment of international agreements and concordats which may effect the harmonising of the development of the two industries now in conflict.

As regards the economic safeguarding of live stock production and of landed property, it is natural that the principal South American countries are hoping to stem by internal regulation or by agreements between consortia of exporters and European importers' consortia, foreign speculation in their products.

Attention has been given to the organisation of resistance by the agricultural associations on the basis of the ascertainment of present and future supplies and of the progress of co-operation in Europe, as well as of the development of European protectionist theories. Statistics have shown that France has become an exporter of live cattle, because it prefers to import for home consumption

chilled meat of first quality bought at half price to the general advantage of French economy. It has been recognised that the South American countries cannot progressively increase their live stock production, because they have no means of directly stimulating the demand on a large scale of their chief product and must therefore await the bid of the forestallers and submit to their prices, while they will not succeed in establishing national slaughterhouses and packing plants for the export trade, or in internationalising the question so as to organise intercontinental co-operation, even limited to special groups of exporting and importing consortia.

The Argentine writers express the conviction that the question must become international, since the agreements of the packers' trusts resolve themselves, in their opinion, into an agreement, to the breeders' detriment, to limit the production of a country or of a group of countries, or to achieve lower prices of the original products; or to the detriment of the consumers, so regulating distribution as to rule the markets and to influence the prices that retail trade is prepared to pay. They consider that this freedom on the part of the trusts to contract creates anti-economic monopolies under the cloak of agreements for organisation of production and of regulation or stabilisation of the sale, and in this way, does much to restrict the world demand for a product of increasing consumption, while checking the endeavours made by many countries for the improvement of stockfarming and breeding.

II. — On the other hand the North American economists who defend the point of view of the meat trusts put forward the following arguments:

The food problem which is an organic part of the problem of the meat industry and trade, is becoming increasingly international, that is to say it has increasingly less national interest for the exporting or importing countries; and this is exactly why this industry and trade should make provision, on the basis of the world consumption demand, to promote by means of the establishment of refrigerating works and of the transport required, the development of live stock production in the immense territories still to be utilised, thus supplementing the methods of animal husbandry.

Among the foodstuffs of world consumption the trade in which is necessarily organised in "big business", the meat trade is the one which is most subject to the dissensions and disputes of the various schools which study the science and the policy of the feeding of nations and individuals. The great provisioning firms of the world should take account of the possible variations and divergences of public opinion in the different countries.

Account should be taken of the fact that the production of beef in countries of greater density of population, increases with the intensive cultivation, in spite of the limitation of cultivable lands. In this connection Belgium may be mentioned where before the war the head of live stock per unit of area was greater than the United States.

To estimate, from the standpoint of the international trade in meat, the unknown quantity of protectionist policy of the important European countries is particularly difficult, nor is it possible for countries which have large unpopulated or nearly so tracts of country to utilise them by means of animal husbandry methods apart from intensive cultivation. In making the calculation a number of criteria must be kept in view, such as questions of population, and social, hygienic and banking questions.

The large American meat companies calculate with sufficient probability:

(a) that the great depression of the live stock industry and the so-called

crisis of the *gahaderos*, which occurred after the war, is at an end, the prices having risen from 1924 onwards;

(b) that the South American continent will remain less populated than the other continents and that an immense increase in its export of meat can be effected, if stock breeding is further developed on industrial lines, and that the continent will be the factor of primary importance in the world situation as regards the meat trade and also that in cereals;

(c) that in consequence of this situation, which seems likely to be a lasting one, the food resources of the soil will always exceed the needs of the population;

(d) that on the other hand the cost of the distribution of meat and agricultural commodities in the world is increasing to a more alarming extent than the production cost of agricultural products;

(e) that a certain check has occurred in the progress of this distribution, as for the last two years some European countries have been tending to reduce their importation of chilled meat either on some theories of hygiene or with a view to the consumption of national products or for reasons based on monetary policy.

The following conclusions may be deduced from these considerations taken as a whole: the question of the fair profit of South American breeders is more complex than is supposed, since it largely depends on the general development of agriculture and co-operative organisation; reliance must chiefly be placed on the technical progress of the commercial system of distribution of meat for avoiding the periodical losses of producers due to fluctuations of supply and demand. For this purpose technical modifications of the supply of live stock are essential, such as will be effected by more intensive systems of stock raising although involving more labour, while it is also necessary to encourage a progressive organisation in the demand for meat addressed to the traders, as well as a larger investment of capital in the great stock farming enterprises. Up to this time capital has not been forthcoming for these larger investments which are necessary for meeting the needs of owners of pasturelands.

The capitalists are rightly anxious to take into account that it is agriculture as a whole, and not the stockbreeding industry as a part, which must be watched in regard to export capacity or which calls for international trading; that the possibility of this expansion depends on the prices of the whole agricultural production and that these depend mainly on the food and monetary policy of the European countries. If the increase of the meat consuming capacity in Europe after the war is an ascertained fact and it is also a fact that the purchasing power of many importing countries is reduced, it would be unwise to count upon the increase of meat consumption, as shown by statistics, to bring about the increase of exportation.

The North American economists add that it should be borne in mind that the comparative development of countries which have abundance of pastureland and of herds depends also on numerous climatic, demographic and commercial factors.

The future of the stock farmers is a question of "big business", that is to say of very large industrial and trading combinations, capable of opening new markets.

The large trusts are essential for achieving a greater economy, in particular the utilisation of every sort of product and by-product of stock farming at the same time. The "efficient cause" of these great international combinations is not

inherent in the special technique of the packing industry but in the necessity of ensuring and guaranteeing the distribution on the largest possible scale. In order to meet the requirements of the different consumption markets, there is need for a wise central direction of these economic nexus and the most intelligent capacity for organisation, since there are dangers to be avoided whenever the economic units are too large for the administrative and technical capacity, just as there are dangers to be avoided when competition is an end in itself.

The general needs demand a few new meat trusts and a fruitful and constant rivalry between them.

The North American economists however maintain : that the anxieties of the South American stock farmers are unfounded so far as based on the fact of the increasing prevalence of North American capital over British and European capital in these trusts ; that the proposal of expropriating for national utility purposes the American and British packing firms or of replacing them by national enterprises would not resolve the capitalist commercial question which is the one that should be first considered ; that stock farmers must not forget that the meat industry and trade has developed in Argentina side by side with the refrigerating industry and that on the further development of this latter will depend the future of the South American continent. This future in a secondary sense is bound up with the development of national and international co-operative institutions in these countries.

Thus through the working of economic laws the conflict tends to reach adjustment gradually, as the development of the large commercial enterprises stimulates the geographical specialisation of the production, together with a further regulation of the world meat market and the elimination of the conservatism of the consumers in countries where it is possible to carry out a strict system of inspection of chilled products.

The meat trusts — it may be said in conclusion — were at the same time cause and effect of a new economic situation in the stockfarming industry. They were found to be at the service of the whole world. The centre of this capitalistic formation passes after the war from Britain to the United States ; but there is room for many other powerful international combinations and especially for European capital.

There is nothing to prevent free competition between the Companies and the co-operative federations and confederations of farmers, to the common advantage of the two Americas and of Europe and even of Australia.

The South American countries might well follow the example of Denmark and New Zealand in effecting a co-operative organisation for export purposes.

The apparent conflict will be overcome, not by legislative provisions of economic safeguards or of international law, but by new economic harmonising forces tending to check or counterbalance the capitalist speculation on the trade in South American products.

* * *

The above is a statement of the divergence of views between the South American writers on rural economy and the North American writers on commercial economy, and it is not proposed here to examine the possibilities of conciliation viewed from the point of view of international or intercontinental economic policy.

E. F.

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AGRICULTURAL LEGISLATION

Summary of Laws and Regulations.

GREAT BRITAIN. — An Act to regulate the sale and manufacture of artificial cream. — 19 & 20 Geo. 5, ch. 32 (10 May 1929).

[The Act gives a definition of the word "cream" and lays down that no person may sell or offer or expose for sale as cream any substance which does not comply with that definition. In the cases of substances which are classed by the Act as "artificial cream" the word "cream" must be immediately preceded by the word "artificial". Receptacles used for the conveyance of artificial cream must have the words "artificial cream" printed in large and legible type either on the receptacle itself or on a label securely attached to such receptacle. Artificial cream may not be manufactured, sold or exposed or kept for sale except at properly registered premises].

RUMANIA. — Lege pentru organizarea Creditului Funciar rural si a Creditului agricol. — 29 Julie 1929. — Monitorul Oficial, N. 183 (20 August 1929).

[This law authorizes the constitution in accordance with the conditions laid down in the law itself of civil societies for rural land credit and agricultural credit societies for granting credits to meet the needs of agriculture and the agricultural industries, facilitate their development, carry out land improvements, intensify cultivation and lastly finance the purchase of rural landed property.

Civil Societies for rural land credit. — These societies shall be composed of at least one hundred landowners who possess land the minimum value of which according to the land tax register is 50 million lei. In the term "rural landowner" the law includes also owners of agricultural land (cultivated fields, vineyards, meadows, forests, etc.) situated within urban districts and municipalities. Legal personality will be granted to them provided they satisfy the provisions laid down in the Commercial legislation on limited liability companies. The usual notification to the Chamber of Commerce is however not required.

The subscribed capital must not be less than 20 million lei and at least 30 % of the total capital must be paid at the first instalment. The liability of each individual shareholder does not exceed the share of capital subscribed by him.

The capital of each civil society for rural land credit is composed (a) of named shares which can only be subscribed by rural owners, agricultural societies and associations, agricultural and credit co-operative societies ; the total value of these shares must not exceed that of the society's capital ; (b) of the sums obtained from the 2 % deducted from each mortgage loan granted by the society, in return for which will be given named shares.

The following operations may be carried out by civil societies for rural land credit : 1. mortgage loans on rural lands ; these loans will be granted in cash or in the form of land bonds repayable in annual instalments and in short or long terms, with or without amortization ; 2. loans on the security of the pledging of land products of whatsoever kind and their derivatives, livestock and farm implements and machinery, etc ; (3) loans to the Central Co-operative Bank and Credit Co-operative Societies in order to enable them to grant personal credits to smallholders ; 4 finance undertakings and co-operative societies for the exploitation of land of every kind and the industrialization of land products ; 5. carry out every kind of banking operations in favour of the members of the Society on the security of land bonds issued by the society ; 6. issue mortgage bonds provided the approval of the general meeting has been secured.

Other provisions deal in detail with the working of these societies, the control to be exercised by the State over their activities and the drafting of their statutes.

Agricultural Credit Societies. — Agricultural credit societies are composed on the one hand of the State in the person of representatives of the Ministries of Agriculture and Domain Lands and of Finance and, on the other, of public institutions or institutions of public utility, banks, financial institutions or else of private persons ; they are created, by public act or by private deed. Their constitution will be drawn up in the first general meeting of the shareholders and must contain rules regarding the organization, working administration, control and liquidation of the society.

The constitution and any amendments made in it later on must be approved by the Council of Ministers.

The capital belonging to each society must amount at least to 500 million lei, divided into shares of at least one thousand each. Agricultural credit societies have the right to carry out all the operations effected by civil societies for rural land credit with the exception of banking operations in favour of their members. They may grant mortgage loans on rural lands whether or not built over and even on lands belonging to persons under a disability or to women as part of their dowry.

Loans on pledge shall only be granted for terms not exceeding one year while loans granted to the Central Co-operative bank or Co-operative Credit societies may not exceed twice the amount of the capital and reserve funds of the lending society.

Agricultural credit societies can issue bonds if a decision has been taken in this sense by the administrative committee ; the total value of these bonds may not exceed ten times the amount of the nominal capital ; if the consent of the general meeting has been obtained this figure may be raised to 15 times.

These bonds may be issued in paper lei or in gold lei or else in foreign currency on a gold basis. They shall be made payable to bearer and fully guaranteed by the mortgage credits of the society or else by immovable property belonging to it. Further bonds may not be issued for an amount exceeding that of the mortgages guaranteeing them.

The law lastly contains important provisions concerning the operations effected by these societies, concerning arbitration in case of disputes, judicial actions and proceedings distraint, sale of immovables, forfeiture of pledges etc].

CANADA (DOMINION). — Order in Council No. 1159 establishing Egg Regulations. 2 July 1929. — The Canada Gazette, No. 3 (20 July 1929).

[The Regulations lay down that the Canadian Standards for Eggs shall be divided into four classes :— Fresh, Storage, Preserved and Cracked and Dirty. The first three classes are again subdivided into grades. The Regulations give an exact definition of each grade and class. Cases containing eggs whether they are of home or foreign origin, must bear the correct name of the class and the grade of the eggs contained in them, while in the case of eggs packed in cartons each carton must be marked on the top with the correct name of the class and grade of the egg. No case or container of eggs shall be shipped or delivered by any producer or first receiver for the home market unless the eggs have been handled and graded and the cases or containers pro-

perly marked. First receivers must in addition give to the producer a statement of the quantity of eggs bought by him from the particular producer and a statement of the final settlement. Eggs for export or for the interprovincial market must be packed in cases bearing the correct name of the class or grade of eggs and the words "Canadian Eggs". Rules are laid down as to the proper packing of the eggs, while shipment of eggs in a lot of twenty-five cases or more will only be allowed on delivery of an export or interprovincial certificate of inspection. The Regulations also establish a Government mark of approval to be given after the proper precautions have been taken as regards the sampling and examination of the products].

UNION OF SOUTH AFRICA. — Food, Drugs and Disinfectants Act. — Act No. 13, 1929. — The Union of South Africa Government No. 1772 (3 April 1929).

[The purposes of this Act as indicated in its title are to regulate the labelling and prevent the importation or sale of food and drugs which are unwholesome or adulterated or incorrectly or false described. The Act also regulates the labelling and prevents the importation or sale of disinfectants which are incorrectly or falsely described. Chapter II of the Act defines the words "adulterated" or "falsely described" as applied to foods and drugs and prohibits the sale of such food and drugs. It also prohibits the injurious addition to, abstraction from, and processing of, foods and drugs as well as the use of preservatives and colouring matters unless permitted by regulation.

Any food, drug or disinfectant may on being imported be analyzed and where not in accordance with the provisions of the present Act be destroyed, returned to the port of entry or shipment or re-labelled as the case may be. The Act further contains strict provisions as to the sale of flour, meal, bread, coffee, honey and certain dairy products as well as of disinfectants. Full powers are given to the proper inspectors to take samples for analysis and to seize and dispose of adulterated articles].

SOUTH AUSTRALIA. — General Regulations issued in virtue of the Dairy Industry Act, 1928. — 7 August 1929. — South Australian Government Gazette No. 34 (8 August 1929).

[The Regulations after defining the principal terms employed, gives directions for the licensing of dairy farms, factories and creameries. The fees payable for the licenses and the basis for the computation of such fees are given together with the standards of chemicals, scales, measures and apparatus used for testing cream and milk. Cream and butter are graded as choice grade, first grade, second grade, third grade and pastry while milk is graded as choicest grade, first grade and second grade. Regulations are laid down as to the sampling of milk and cream and provisions made for the registration of brands to be used on butter packages and for the proper keeping of books of account, records and returns.

After laying down the qualifications that are required of testers and graders of milk and cream the Regulations specifies the measures to be taken to ensure cleanliness and sanitation of premises and utensils].

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